West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to
Title V
of the Clean Air Act

Issued to:
Quad/Graphics, Inc.
Martinsburg Plant
R30-00300042-2012

John A. Benedict
Director

Issued: April 10, 2012 • Effective: April 24, 2012
Expiration: April 10, 2017 • Renewal Application Due: October 10, 2016

Permit Number: **R30-00300042-2012**
Permittee: **Quad/Graphics, Inc.**
Facility Name: **Martinsburg Plant**
Mailing Address: **855 Caperton Boulevard, Martinsburg, WV 25401**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Martinsburg, Berkeley County, West Virginia
Mailing Address:	855 Caperton Boulevard, Martinsburg, WV 25401
Telephone Number:	(304) 260-7000
Type of Business Entity:	Corporation
Facility Description:	Commercial printing
SIC Codes:	2754; 2752; 2893
UTM Coordinates:	247.0 km Easting • 4,377.0 km Northing • Zone 18

Permit Writer: Rex Compston, P.E.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Publication Rotogravure Printing Presses					
S-25/S-26/S-27	G-13	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	1997	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-14	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	1997	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-15	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	1998	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-16	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	1998	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-17	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	1999	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-18	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	1999	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-19	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	2000	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-21	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	2002	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-22	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	2002	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	G-23	Cerutti Four (4) Color, 12 unit, 108" Rotogravure Press	2001	108" Web 19.7 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-28	Albert-Frankenthal Four (4) Color, 8 unit, 108" Rotogravure Press	Not Installed	108" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-29	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-30	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-31	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-32	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-33	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-34	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	G-35	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press	Not Installed	133" Web 24.26 lb/hr VOC	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-1	Yellow R/G Printing Ink	1997	20,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	T-2	Red R/G Printing Ink	1997	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-3	Blue R/G Printing Ink	1997	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-4	Black R/G Printing Ink	1997	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-5	Coated R/G Extender	1997	20,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-6	Uncoated R/G Extender	1997	20,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-7	Toluene (Recovered Solvent)	1997	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-8	Toluene (Recovered Solvent)	1997	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-9	Toluene (Recovered Solvent)	1997	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-10	Toluene (Recovered Solvent)	Not Installed	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
Heatset Web Offset Lithographic Presses					
S-28	OP-01	Heidelberg Harris M3000 8-unit, 4 color, heatset, Offset Press	Not Installed	57- 66 inches	F-01 Thermal Oxidizer
S-29	OP-02	Heidelberg Harris M3000 8-unit, 4 color, heatset, Offset Press	Not Installed	57- 66 inches	F-02 Thermal Oxidizer

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-30	OP-03	Heidelberg Harris M1000 8-unit, 4 color heatset, Offset Press	1998	35 – 40 inches	F-03 Catalytic Oxidizer
S-31	OP-04	Man Roland Rotoman SS 8-unit, 4 color, heatset, Offset Press	2002	35 – 40 inches	F-04 Thermal Oxidizer
S-32	OP-05	Man Roland Rotoman SS 8-unit, 4 color, heatset, Offset Press	2002	35 – 40 inches	F-05 Thermal Oxidizer
S-33	OP-06	Heidelberg Harris M1000 8-unit, 4 color, heatset, Offset Press	Not Installed	35 – 40 inches	F-06 Thermal Oxidizer
S-34	OP-07	Heidelberg Harris M1000 8-unit, 4 color, heatset, Offset Press	Not Installed	35 – 40 inches	F-07 Thermal Oxidizer
S-35	OP-08	Heidelberg Harris M1000 8-unit, 4 color, heatset, Offset Press	Not Installed	35 – 40 inches	F-08 Thermal Oxidizer
S-36	OP-09	Heidelberg Harris M3000 8-unit, 4 color, heatset, Offset Press	Not Installed	57 – 66 inches	F-09 Thermal Oxidizer
S-37	OP-10	Heidelberg Harris M3000 8-unit, 4 color, heatset, Offset Press	Not Installed	57 – 66 inches	F-10 Thermal Oxidizer
S-38	OP-11	Heidelberg Harris M3000 8-unit, 4 color, heatset, Offset Press	Not Installed	57 – 66 inches	F-11 Thermal Oxidizer
S-39	OP-12	Heidelberg Harris M3000 8-unit, 4 color, heatset, Offset Press	Not Installed	57 – 66 inches	F-12 Thermal Oxidizer
		Ink Blending Facility			
S-25/S-26/S-27	AC1	Storage (1) Clay Concentrate	2000	20,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	AEC1	Storage (2) Ethylcellulose Compound	2000	8,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	AW1	Storage (3) Wax Compound	2000	8,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CB1	Storage (4) Blue Concentrate	2000	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	CK1	Storage (5) Black Concentrate	2000	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CR1	Storage (6) Rubine Red Concentrate	2000	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CR2	Storage (7) Barium Lithol Concentrate	2000	8,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CY1	Storage (8) Yellow Concentrate	2000	12,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	R1A	Storage (9) Resinate #1	2000	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	R1B	Storage (10) Resinate #1	2000	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	R2	Storage (11) Resinate #2	2000	30,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	ABt1	Tote (1) Alkali Blue	Not Installed	350 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	MBt1	Tote (2) Miluri Blue	Not Installed	350 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	ECt1	Tote (3) Ethyl Cellulose	Not Installed	554 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	M1	Blending (1) Yellow Ink Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	M2	Blending (2) Red Ink Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	M3	Blending (3) Blue Ink Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	M4	Blending (4) Black Ink Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	M5	Blending (5) Coated Extender Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	M6	Blending (6) Uncoated Extender Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	M7	Blending (7) Ethyl Cellulose Mixing	2000	5,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	BL-01	Black Dispersion Tank	2008	1,476 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	BL-02	Black Buffer Tank	2008	2,056 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	BL-03	Black Letdown Tank	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	CL-01	Clay Dispersion Tank	2008	1,476 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CL-02	Clay Buffer Tank	2008	2,056 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CL-03	Clay Letdown Tank	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CYL-01	Blue Dispersion Tank	2008	1,476 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CYL-02	Blue Buffer Tank	2008	2,056 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	CYL-03	Blue Letdown Tank	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	RES-01	Resinate Holding Tank 1	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	RES-02	Resinate Holding Tank 2	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	RESL-01	Resinate Dispersion Tank 1	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	RESL-02	Resinate Dispersion Tank 2	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	RL-01	Red Dispersion Tank	2008	1,476 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	RL-02	Red Buffer Tank	2008	2,056 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	RL-03	Red Letdown Tank	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	YL-01	Yellow Dispersion Tank	2008	1,476 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	YL-02	Yellow Buffer Tank	2008	2,056 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	YL-03	Yellow Letdown Tank	2008	2,839 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-11	Custom Yellow R/G Printing Ink	2002	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-12	Custom Red R/G Printing Ink	2002	8,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-13	Custom Blue R/G Printing Ink	2002	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
S-25/S-26/S-27	T-14	Custom Black R/G Printing Ink	2002	8,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-25/S-26/S-27	T-15	Custom Coated R/G Extender	2002	10,000 gallon	Solvent Recovery System - Carbon Adsorbers CA-01 through CA-21
Chrome Plating					
S-06	CP-06	Chrome Plating Tank	1997	0.015 mg/DSCM/tank	CS-06 CMP Scrubber
S-07	CP-07	Chrome Plating Tank	1998	0.015 mg/DSCM/tank	CS-07 CMP Scrubber
S-08	CP-08	Chrome Plating Tank	Not Installed	0.015 mg/DSCM/tank	CS-08 CMP Scrubber
Boilers					
S-1	B-01	Cleaver Brooks D-60-E Low NO_x Burners & FGR NG / LPG 1000 HP	1996	52.061 MMBtu/hr	B-01 Low NO_x Burners
S-2	B-02	Cleaver Brooks D-60-E Low NO_x Burners & FGR NG / LPG 1000 HP	1997	52.061 MMBtu/hr	B-02 Low NO_x Burners
S-3	B-03	Cleaver Brooks CBL-700 Low NO_x Burners & FGR NG / LPG 1300 HP	2000	54.40 MMBtu/hr	B-03 Low NO_x Burners
S-4	B-04	Johnston Boiler Co. PFTA 1600-4 Low NO_x Burners & FGR NG / LPG 1,600 HP	2001	65.78 MMBtu/hr	B-04 Low NO_x Burners
S-5	B-05	Johnston Boiler Co. PFTA 1600-4 Low NO_x Burners & FGR NG / LPG 1,600 HP	Not Installed	65.78 MMBtu/hr	B-05 Low NO_x Burners
S-9	B-09	Johnston Boiler Co. PFTA 1600-4 Low NO_x Burners & FGR NG / LPG 1,600 HP	Not Installed	65.78 MMBtu/hr	B-09 Low NO_x Burners
Miscellaneous Operations/Processes					
S-82	RZ-01	Renzmann Cylinder Wash System	2000	30 min cycles (approx.)	None
S-12	IJ	Ink Jet Printing	1997	9.24 lbs/hr and 40.46 TPY VOC	None
Fugitive	NA	Truck/Rail Loadout Operations	1997	8,000,000 gallons/yr	None
Solvent Recovery System (SRS)					
S-25	CA-01	Carbon Adsorber	1997	32 tons carbon	NA
S-25	CA-02	Carbon Adsorber	1997	32 tons carbon	NA
S-25	CA-03	Carbon Adsorber	1997	32 tons carbon	NA
S-25	CA-04	Carbon Adsorber	1998	32 tons carbon	NA
S-25	CA-05	Carbon Adsorber	1998	32 tons carbon	NA
S-25	CA-06	Carbon Adsorber	1999	32 tons carbon	NA
S-25	CA-07	Carbon Adsorber	1999	32 tons carbon	NA
S-26	CA-08	Carbon Adsorber	2000	32 tons carbon	NA
S-26	CA-09	Carbon Adsorber	2000	32 tons carbon	NA
S-26	CA-10	Carbon Adsorber	2000	32 tons carbon	NA
S-26	CA-11	Carbon Adsorber	2001	32 tons carbon	NA
S-26	CA-12	Carbon Adsorber	2002	32 tons carbon	NA

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S-26	CA-13	Carbon Adsorber	2002	32 tons carbon	NA
S-26	CA-14	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-15	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-16	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-17	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-18	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-19	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-20	Carbon Adsorber	Not Installed	32 tons carbon	NA
S-27	CA-21	Carbon Adsorber	Not Installed	32 tons carbon	NA

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R14-0012E	February 15, 2011

2.0 General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NSPS**	New Source Performance Standards
CBI	Confidential Business Information	**PM**	Particulate Matter
CEM	Continuous Emission Monitor	**PM_{10}**	Particulate Matter less than 10μm in diameter
CES	Certified Emission Statement	**pph**	Pounds per Hour
C.F.R. *or* CFR	Code of Federal Regulations	**ppm**	Parts per Million
CO	Carbon Monoxide	**PSD**	Prevention of Significant Deterioration
C.S.R. *or* CSR	Codes of State Rules	**psi**	Pounds per Square Inch
DAQ	Division of Air Quality	**SIC**	Standard Industrial Classification
DEP	Department of Environmental Protection	**SIP**	State Implementation Plan
FOIA	Freedom of Information Act	**SO_2**	Sulfur Dioxide
HAP	Hazardous Air Pollutant	**TAP**	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	**TPY**	Tons per Year
HP	Horsepower	**TRS**	Total Reduced Sulfur
lbs/hr *or* lb/hr	Pounds per Hour	**TSP**	Total Suspended Particulate
LDAR	Leak Detection and Repair	**USEPA**	United States Environmental Protection Agency
m	Thousand	**UTM**	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	**VEE**	Visual Emissions Evaluation
mm	Million	**VOC**	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
$mmft^3$/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour		
NA *or* N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.
[45CSR§30-5.1.f.2.]

2.17. Emergency

2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
[45CSR§30-5.7.a.]

2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.
[45CSR§30-5.7.b.]

2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
[45CSR§30-5.7.d.]

2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and

are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. **[45CSR§6-3.1.]**

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. **[45CSR§6-3.2.]**

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. **[40 C.F.R. §61.145(b) and 45CSR34]**

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. **[45CSR§4-3.1 State-Enforceable only.]**

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. **[45CSR§11-5.2]**

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. **[W.Va. Code § 22-5-4(a)(14)]**

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by an State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR14, R14-0012, 4.1.8; 45CSR§13-5.11]

3.2. Monitoring Requirements

3.2.1. Reserved

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any

testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

3.3.2. Tests that are required by the Director to determine compliance with any emission limitations set forth in this permit shall be conducted in accordance with the methods as set forth below. The Director may require a different test method or approve an alternative method in light of any new technology advancements that may occur. Compliance testing shall be conducted at maximum permitted capacity (in the absence of limits on a piece of equipment, the testing shall be conducted at maximum design capacity) unless otherwise approved by the Director in the protocol submitted under 3.3.1.

a. Tests to determine compliance with particulate emission limits shall be conducted, as applicable, in accordance with Method 5, 5A, 5B, 5C, 5D, 5E, 5F, 5G, or 5H as set forth in 40 C.F.R. 60, Appendix A and EPA Method 201, 201A, and 202 as set forth in 40 C.F.R. 51.

b. Tests to determine compliance with SO_2 emission limits shall be conducted in accordance with Method 6, 6A, 6B, or 6C as set forth in 40 C.F.R. 60, Appendix A.

c. Tests to determine compliance with CO emission limits shall be conducted in accordance with Method 10, 10A, or 10B as set forth in 40 C.F.R. 60, Appendix A.

d. Tests to determine compliance with NO_x emission limits shall be conducted in accordance with Method 7, 7A, 7B, 7C, 7D, or 7E as set forth in 40 C.F.R. 60, Appendix A.

e. Tests to determine compliance with VOC emission limits/control efficiencies shall be conducted in accordance with Method 18, Method 25, or 25A as set forth in 40 C.F.R. 60, Appendix A.

f. Tests to determine compliance with speciated organic HAP emission limits shall be conducted in accordance with Method 18 as set forth in 40 C.F.R. 60, Appendix A.

[45CSR14, R14-0012, 4.3.8]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR14, R14-0012, 4.4.1]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.4.4. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR14, R14-0012, 4.4.2]

3.4.5. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR14, R14-0012, 4.4.3]

3.4.6. The permittee shall maintain records of any testing conducted as required in Sections 3.3, 4.3, 5.3, 7.3, and 8.3 of this permit in accordance with condition 3.4.2 of this permit.
[45CSR14, R14-0012, 4.4.5]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Enforcement and Permits Review (3AP12)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. **[45CSR§30-5.1.c.3.B.]**

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement. **[45CSR§30-4.3.h.1.B.]**

3.5.10. Use of any material containing any constituent identified in Section §112(b) of the 1990 Clean Air Act Amendments as a Hazardous Air Pollutant (HAP) and not listed under the specified emission limit in Appendix A shall be in accordance with the following:

a. The permittee shall notify the Director in writing of the material to be/that was used and the additional HAP(s) contained therein within thirty (30) days of the use of the material. Additionally, an MSDS sheet for the material shall be supplied at this time to the Director.

b. The use of the material shall be incorporated into the recordkeeping requirements as mandated in this permit.

c. The permittee shall apply for a modification to R14-0012 and this permit prior to the use of the HAP-containing surface coating if the use of said surface coating is defined as a modification pursuant to 45CSR§13-2.17.

d. No material containing any toxic air pollutant (TAP) as defined by West Virginia Legislative Rule 45CSR§27-2.10., shall be used without prior approval of the Director of the Division of Air Quality.

[45CSR14, R14-0012, 4.2.14]

3.5.11. The permittee shall submit the results of testing as required in Sections 3.3, 4.3, 5.3, 7.3, and 8.3 or by the Director before the close of business on the 60th day following the completion of such testing to the Director. **[45CSR14, R14-0012, 4.5.2]**

3.6. Compliance Plan

3.6.1. None.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. 40 C.F.R. 64 – "Compliance Assurance Monitoring." This is the second permit renewal for this facility. At the time of the first renewal, a CAM applicability review was conducted, and CAM did not apply. No changes have been made at this facility since the first renewal that would require any additional CAM applicability determinations.

4.0 Publication Rotogravure Printing Presses [emission unit ID(s): G-13, G-14, G-15, G-16, G-17, G-18, G-19, G-21, G-22, G-23, G-28, G-29, G-30, G-31, G-32, G-33, G-34, G-35, T-1, T-2, T-3, T-4, T-5, T-6, T-7, T-8, T-9, T-10]

4.1. Limitations and Standards

4.1.1. The following table provides a list of publication rotogravure presses authorized to operate by this permit at the subject facility. The presses shall be installed, maintained, and operated so as to minimize any fugitive escape of Volatile Organic Compound (VOC)-laden vapors and shall utilize the specified control devices:

Source ID No.	Source Description	Control Device ID No.[1]	Control Device Description	Emission Point ID No.[1]
G-13	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press	CA-01 through CA-21	Carbon Adsorber	S-25 S-26 S-27
G-14	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-15	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-16	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-17	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-18	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-19	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-20	Permanently Removed From Service in 2010.		NA	
G-21	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-22	Cerutti Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-23	Cerutti Four (4) Color, 12 unit, 108" Rotogravure Press		Carbon Adsorber	
G-28	Albert -Frankenthal Four (4) Color, 8 unit, 108" Rotogravure Press		Carbon Adsorber	
G-29	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	
G-30	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	
G-31	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	
G-32	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	
G-33	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	
G-34	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	
G-35	Cerutti Four (4) Color, 8 unit, 133" Rotogravure Press		Carbon Adsorber	

[1] The presses vent to three (3) banks of seven carbon adsorbers known collectively as the solvent recovery system. Due to possible layout changes and times of maintenance, presses may vent to any of the three adsorber banks. Each adsorber bank has one stack (emission points S-25, S-26, S-27).

[45CSR14, R14-0012, 4.1.1.a]

4.1.2. Maximum hourly and annual emissions from the operation of each publication rotogravure printing press identified under 4.1.1, as emitted from the solvent recovery system (SRS), shall not exceed those limits as specified in Appendix A. All annual limits specified in this permit are twelve month rolling totals. A twelve month rolling total is the sum of the measured quantity for the previous twelve consecutive months. **[45CSR14, R14-0012, 4.1.1.b]**

4.1.3. VOC capture efficiency shall be 100% for the rotogravure press room enclosures. Compliance with this provision shall be determined by meeting the following provisions:

a. All VOC emissions must be captured and contained for discharge through the control device.

b. The total area of all natural draft openings (NDOs) shall not exceed five percent of the surface area of the enclosure's four walls, floor, and ceiling. (A natural draft opening is defined as an opening that is not connected to a duct in which a fan or a blower is installed. Examples of natural draft openings are

the entrances and exits to the enclosure which accommodate raw material and product flow. Inward flow through the natural draft openings will take place only if forced make-up air is introduced to the total enclosure at a rate less than the rate at which air is exhausted.)

c. All access doors and windows whose areas are not included in 4.1.3.b. and are not included in the calculation in 4.1.3.d. shall be closed during routine operation.

d. The average face velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 ft/min), which equates to a pressure drop of 0.004 inches of water. The direction of air through all NDOs shall be into the enclosure.

e. Any NDO shall be at least four equivalent opening diameters from any VOC emitting source. The equivalent diameter of an opening is four times the opening area divided by the perimeter.

[45CSR14, R14-0012, 4.1.1.c]

4.1.4. At all times the presses as identified under 4.1.1 are engaged in printing operations, each of the press room enclosures shall vent to the SRS and it shall not be by-passed, disconnected, or otherwise rendered ineffective in the control of VOCs from the printing operations.
[45CSR14, R14-0012, 4.1.1.d]

4.1.5. The permittee shall maintain a facility-wide minimum overall VOC control efficiency of 95.00% for each calendar month, and 96.00% as averaged over any period of twelve (12) months, for the operation of the rotogravure presses identified under 4.1.1.
[45CSR14, R14-0012, 4.1.1.e]

4.1.6. The permittee shall, in the first six (6) months of operation of a new adsorber, maintain a minimum overall VOC control efficiency of 92% for rotogravure press(es) vented to that adsorber for each calendar month. Compliance with the provisions of 4.1.5 shall be a determination of compliance with this requirement. However, the calculated overall control efficiency of press(es) vented to a new adsorber in the first six (6) months of operation may be excluded from the facility-wide compliance calculation required under 4.1.5 if the permittee can identify exclusively the overall control efficiency of the press(es) vented to the new adsorber only. The emission limits under Appendix A will remain in effect for presses vented to adsorbers during their first six (6) months of operation. If overall control efficiency of presses vented to adsorbers during their first six (6) months of operation are exempted from the calculation required under 4.1.5, the permittee shall show compliance with the specific press emission limits using the calculated overall control efficiency of the new adsorber only. If included in the compliance calculation required under 4.1.5, the permittee shall use the facility-wide calculated 12-month overall control efficiency for compliance calculations as specified under 4.2.1.
[45CSR14, R14-0012, 4.1.1.f]

4.1.7. The following table provides a list of rotogravure ink and associated material storage tanks authorized to operate by this permit at the subject facility. The tanks shall be installed, maintained, and operated so as to minimize any fugitive escape of VOC-laden vapors:

Tank ID No.	Nominal[(1)] Volume (gal)	Calculated[(2)] Volume (gal)	Material Stored or Blended
T-1	20,000	17,273	Yellow R/G Printing Ink
T-2	10,000	8,813	Red R/G Printing Ink
T-3	10,000	8,813	Blue R/G Printing Ink

T-4	10,000	8,813	Black R/G Printing Ink
T-5	20,000	17,273	Coated R/G Extender
T-6	20,000	17,273	Uncoated R/G Extender
T-7	30,000	29,940	Toluene (recovered solvent)
T-8	30,000	29,940	Toluene (recovered solvent)
T-9	30,000	29,940	Toluene (recovered solvent)
T-10	30,000	29,940	Toluene (recovered solvent)

(1) Nominal capacity as assigned by the manufacturer.
(2) Capacity as calculated from tank dimensions.

[45CSR14, R14-0012, 4.1.1.g]

4.1.8. The maximum annual throughput of the materials in the following table shall not be exceeded for the specified storage tanks:

Tank ID	Material Stored	Max Throughput (gallons)
T-1	Yellow R/G Printing Ink	1,972,483
T-2	Red R/G Printing Ink	1,094,433
T-3	Blue R/G Printing Ink	1,269,692
T-4	Black R/G Printing Ink	581,452
T-5	Coated R/G Extender	2,513,499
T-6	Uncoated R/G Extender	1,167,249
T-7 to T-10	Recovered Toluene	59,103,676(1)

(1) Aggregate Limit for Tanks T7, T8, T9, T10.

[45CSR14, R14-0012, 4.1.1.h]

4.1.9. All VOC-laden vapors resulting from working or breathing losses from any of the tanks listed in 4.1.7 shall either be vented to the SRS or recovered through the use of a vapor-balance system.

For the purposes of this permit, breathing loss is defined as the expulsion of vapor from a tank due to vapor expansion resulting from diurnal temperature and barometric pressure changes.

For the purposes of this permit, working loss is defined as the vapor displaced during tank loading operations and when air drawn into the tank during unloading operations becomes saturated with vapor and expands.

[45CSR14, R14-0012, 4.1.1.i]

4.1.10. Emissions resulting from the storage and transfer of the materials listed under 4.1.7 within the storage/mixing tanks identified under 4.1.7, as emitted from the SRS, shall not exceed those limits as specified in Appendix A. Compliance with the Appendix A emission limits for the storage/mixing tanks identified under 4.1.7, as emitted from the SRS, shall be demonstrated through compliance with conditions 4.1.7, 4.1.8, and 4.1.9.
[45CSR14, R14-0012, 4.1.1.j; 45CSR§30-5.1.c]

4.1.11. The operation of the sources listed under 4.1.1 and 4.1.7 shall meet all the applicable requirements under 40 C.F.R. 63, Subpart KK.
[45CSR14, R14-0012, 4.1.1.k]

4.1.12. The affected sources subject to 40 C.F.R. 63, Subpart KK are all of the publication rotogravure presses and all related equipment, including proof presses, cylinder and parts cleaners, ink and solvent mixing and

storage equipment, and solvent recovery equipment at a facility. The pertinent sections of 40 C.F.R. 63, Subpart KK applicable to this facility include the following:
[40 C.F.R. §63.821(a)(1)]

a. Each publication rotogravure affected source shall limit emissions of organic HAP to no more than eight percent of the total volatile matter used each month. The emission limitation may be achieved by overall control of at least 92 percent of organic HAP used, by substitution of non-HAP materials for organic HAP, or by a combination of capture and control technologies and substitution of materials. To demonstrate compliance for affected sources whose emissions are controlled by a solvent recovery device, each owner or operator shall follow the procedure specified in paragraph 4.1.12.a.1.
[40 C.F.R. §63.824(b)]

1. Each owner or operator using a solvent recovery device to control emissions and demonstrating compliance by showing that the HAP emission limitation is achieved by following the liquid-liquid material balance procedures shall:
[40 C.F.R. §63.824(b)(1)]

i. Perform a liquid-liquid material balance for each month as follows:
[40 C.F.R. §63.824(b)(1)(i)]

(A) Measure the mass of each ink, coating, varnish adhesive, primer, solvent, and other material used by the affected source during the month.
[40 C.F.R. § 63.824 (b) (1) (i) (A)]

(B) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent and other material used by the affected source during the month following the procedure in 4.3.3.
[40 C.F.R. § 63.824 (b) (1) (i) (B)]

(C) Determine the volatile matter content, including water, of each ink, coating varnish, adhesive, primer, solvent, and other material used by the affected source during the month following the procedure in 4.3.4.
[40 C.F.R. § 63.824 (b) (1) (i) (C)]

(D) Install, calibrate, maintain and operate, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device shall be initially certified by the manufacturer to be accurate to within ± 2.0 percent.
[40 C.F.R. § 63.824 (b) (1) (i) (D)]

(E) Measure the amount of volatile matter recovered for the month.
[40 C.F.R. § 63.824 (b) (1) (i) (E)]

(F) Calculate the overall effective organic HAP control efficiency (R_e) for the month using the following equation:

$$R_e = (100)\frac{M_{vu} - M_{hu} + \left[(M_{vr})(M_{hu}/M_{vu})\right]}{M_{vu}}$$

For the purposes of this calculation, the mass fraction of organic HAP present in the recovered volatile matter is assumed to be equal to the mass fraction of organic HAP present in the volatile matter used.

R_e = the overall effective organic HAP control efficiency for publication rotogravure, percent.

M_{vu} = the mass of volatile matter, including water, used in a month, kg.

M_{hu} = the mass of organic HAP used in a month, kg.

M_{vr} = the mass of volatile matter recovered in a month, kg.

[40 C.F.R. §§63.822(b)(25), (30), (31), and (38) and 40 C.F.R. §63.824(b)(1)(i)(F)]

(G) The affected source is in compliance for the month, if it is at least 92 percent each month. **[40 C.F.R. § 63.824 (b) (1) (i) (G)]**

[45CSR14, R14-0012, 4.1.1.k; 45CSR34]

4.2. Monitoring Requirements

4.2.1. To determine compliance with the minimum overall control efficiencies under 4.1.5, the permittee shall use the calculations and methodology contained in Appendix C to calculate "e" as defined in Appendix C. For the purposes of the above definition, the amount of VOCs recovered by the SRS attributable to storage/mixing tank operations may be assumed to be negligible. The overall control efficiency for each calendar month shall be the value of "e" calculated for that month. The twelve (12) month average overall control efficiency shall be the sum of the twelve (12) most recently calculated monthly control efficiencies divided by twelve (12). **[45CSR14, R14-0012, 4.2.2]**

4.3. Testing Requirements

4.3.1. The permittee shall conduct a performance test to determine compliance with the FV requirement on all applicable NDOs under 4.1.3.d. at a minimum of once every 36 months. All tests shall be in accordance with 3.3.1 and 3.3.2. With respect to any mandatory testing, the permittee shall conduct the tests within the mandatory schedule unless granted a variance from such schedule by the Director of the Division of Air Quality upon request from the permittee.
[45CSR14, R14-0012, 4.3.5, 4.3.7, and 4.3.10]

4.3.2. The operation of the sources identified under Section 4.1 shall meet all applicable testing requirements under 40 C.F.R. 63, Subpart KK and the General Provisions of 40 C.F.R. 63, Subpart A.
[45CSR14, R14-0012, 4.3.6]

4.3.3. Each owner or operator of a publication rotogravure affected source shall determine the weight fraction organic HAP of each ink, coating, varnish, adhesive, primer, solvent, and other material used by following procedures:

a. The owner or operator may test the material in accordance with Method 311 of Appendix A of 40 C.F.R. 63. The Method 311 determination may be performed by the owner or operator of the affected

source, the supplier of the material, or an independent third party. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in 4.3.3.a.1 through 4.3.3.a.3.

1. Include each organic HAP determined to be present at greater than or equal to 0.1 weight percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 C.F.R. §1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds.

2. Express the weight fraction of each organic HAP included according to 4.3.3.a.1 as a value truncated to four places after the decimal point (for example, 0.3791).

3. Calculate the total weight fraction of organic HAP in the tested material by summing the weight fraction of each organic HAP included according to 4.3.3.a.1 and truncating the result to three places after the decimal point (for example, 0.763).

b. The owner or operator may determine the weight fraction volatile matter of the material in accordance with 4.3.4 and use this value for the weight fraction organic HAP for all compliance purposes.

c. The owner or operator may use formulation data to determine the weight fraction organic HAP of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. Formulation data may be used provided that the weight fraction organic HAP is calculated according to the criteria and procedures in 4.3.3.c.1 through 4.3.3.c.4. In the event of an inconsistency between the formulation data and the result of Method 311 of Appendix A of 40 C.F.R. 63, where the test result is higher, the Method 311 data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

1. For each raw material used in making the material, include each organic HAP present in that raw material at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in 29 C.F.R. §1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds. The weight fraction of each such organic HAP in each raw material must be determined by Method 311 of Appendix A of 40 C.F.R. 63, by an alternate method approved by the Administrator, or from a CPDS provided by the raw material supplier or an independent third party. The weight fraction of each such organic HAP in each raw material must be expressed as a value truncated to four places after the decimal point (for example, 0.1291).

2. For each raw material used in making the material, the weight fraction contribution of each organic HAP, which is included according to 4.3.3.c.1, in that raw material to the weight fraction organic HAP of the material is calculated by multiplying the weight fraction, truncated to four places after the decimal point (for example, 0.1291), of that organic HAP in that raw material times the weight fraction of that raw material, truncated to four places after the decimal point (for example, 0.2246), in the material. The product of each such multiplication is to be truncated to four places after the decimal point (for example, 0.1291 times 0.2246 yields 0.02899586 which truncates to 0.0289).

3. For each organic HAP which is included according to 4.3.3.c.1, the total weight fraction of that organic HAP in the material is calculated by adding the weight fraction contribution of that

organic HAP from each raw material in which that organic HAP is included according to 4.3.3.c.1. The sum of each such addition must be expressed to four places after the decimal point.

4. The total weight fraction of organic HAP in the material is the sum of the counted individual organic HAP weight fractions. This sum must be truncated to three places after the decimal point (for example, 0.763).

[45CSR14, R14-0012, 4.3.6; 45CSR34; 40 C.F.R. §63.827(b)(1)]

4.3.4. Each owner or operator of a publication rotogravure affected source shall determine the volatile matter weight fraction of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, diluent, and other material used by following the procedures in 4.3.3.a, or by using formulation data as described in 4.3.4.b.

a. Determine the volatile matter weight fraction of the material using Method 24A of 40 C.F.R. 60, Appendix A. The Method 24A determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The Method 24A result shall be truncated to three places after the decimal point (for example, 0.763). If these values cannot be determined using Method 24A, the owner or operator shall submit an alternative technique for determining their values for approval by the Administrator.

b. The owner or operator may use formulation data to determine the volatile matter weight fraction or solids weight fraction of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. The volatile matter weight fraction and solids weight fraction shall be truncated to three places after the decimal point (for example, 0.763). In the event of any inconsistency between the formulation data and the result of Method 24 or Method 24A of 40 C.F.R. 60, Appendix A, where the test result for volatile matter weight fraction is higher or the test result for solids weight fraction is lower, the applicable test method data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

[45CSR14, R14-0012, 4.3.6; 45CSR34; 40 C.F.R. §§63.827(c)(1) and (c)(3)]

4.4. Recordkeeping Requirements

4.4.1. For the purposes of determining on-going compliance with the limits set forth in 4.1.2, the permittee shall maintain records of the following on an individual press basis:

a. The hours of operation of each rotogravure press; and

b. The name and product number of each ink, ink additive, and solvent (referred to hereafter as "material") used in operation of each rotogravure press; and

c. The mass of VOC and speciated HAPs of each material and the volume of each material used each month.

d. Within fifteen (15) days of the last day of each month, the permittee shall compile and tally the following information: hourly, monthly, and rolling twelve month emission rates for VOCs and speciated HAPs from each of the rotogravure presses listed under 4.1.1. The VOC and speciated HAP emission rates shall be calculated using the following formulas:

1. The mass of VOCs and speciated HAPs *per volume* of each material shall be determined by one of the following methods:

   i. Certified Product Data Sheets ("Certified Product Data Sheets" shall have the definition assigned to them under 40 C.F.R. 63, Subpart KK) provided by the material supplier, or

   ii. 40 C.F.R. 60, Appendix A, Method 24.

2. The mass of VOCs and speciated HAPs of each material used on a monthly basis, shall be calculated using the following formula:

   $Mass_{(pounds\ of\ VOCs,\ HAPs/Month)} = A * B$

   Where: A = monthly material usages in gallons per month
   B = VOCs and speciated HAPs content of the materials used in pounds per gallon as determined under 4.4.1.d.1.

3. The annual, monthly, and hourly emission rates of VOCs and speciated HAPs shall be calculated in the following manner:

   i. The annual emission rate of VOCs and aggregate and speciated HAPs shall be calculated as the sum of the monthly emission rates of VOCs and speciated HAPs, respectively, from the previous twelve (12) months.

   ii. The monthly emission rate of VOCs and aggregate and speciated HAPs shall be calculated, on a monthly basis, using the following formula:

   $Emission\ rate_{(pounds\ of\ VOCs,\ HAPs/Month)} = C * (1-(CDE/100))$

   Where: $C = Mass_{(pounds\ of\ VOCs,\ HAPs/Month)}$
   CDE = Minimum or demonstrated control device efficiency (as applicable) of SRS in percent. The minimum SRS control device efficiency shall be used until such time as a continuous SRS control device monitoring plan is approved under 10.2.a.1. For the calculation above, when using demonstrated efficiency, the efficiency shall be efficiency as averaged over the month in question.

   iii. The hourly emission rates of VOCs and aggregate and speciated HAPs shall be calculated, on a monthly basis, using the following formula:

   $Emission\ rate_{(pounds\ of\ VOCs,\ HAPs/Hour)} = Emission\ rate_{(pounds\ of\ VOCs,\ HAPs/Month)}/D$

   Where: D = Monthly hours of specific rotogravure press operations

[45CSR14, R14-0012, 4.2.1]

4.4.2. For the purposes of determining compliance with maximum throughput limits set forth in 4.1.8, the permittee shall maintain a monthly record of the amount, in gallons, of each material unloaded into the permanent storage tanks listed under 4.1.7.
[45CSR14, R14-0012, 4.2.3]

4.4.3. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

4.4.4. The permittee shall maintain records of all measurements needed to demonstrate compliance with 40 C.F.R. 63, Subpart KK, such as material usage, HAP usage, volatile matter usage, and solids usage that support data that the source is required to report**.** These records shall be maintained on a monthly basis in accordance with 40 C.F.R. §63.10(b)(1).
[45CSR14, R14-0012, 4.2.12; 45CSR34; 40 C.F.R. §§63.829(b) and (b)(1)]

4.4.5. The permittee shall maintain records of all liquid-liquid material balances performed in accordance with the requirements of 4.1.12.a.1. The records shall be maintained in accordance with the requirements of 40 C.F.R. §63.10(b).
[45CSR14, R14-0012, 4.2.12; 45CSR34; 40 C.F.R. §63.829(c)]

4.5. Reporting Requirements

4.5.1. A summary report specified in 40 C.F.R. §63.10(e)(3) shall be submitted on a semi-annual basis (i.e., once every 6-month period). The summary report shall include the exceedances of the standard specified in 4.1.12.a. **[45CSR14, R14-0012, 4.2.12; 45CSR34; 40 C.F.R. §63.830(b)(6)]**

4.6. Compliance Plan

4.6.1. None

5.0 Heatset Web Offset Lithographic Presses [emission unit ID(s): OP-01, OP-02, OP-03, OP-04, OP-05, OP-06, OP-07, OP-08, OP-09, OP-10, OP-11, OP-12]

5.1. Limitations and Standards

5.1.1. The following table provides a list of heatset web offset lithographic presses authorized to operate by this permit at the subject facility. The presses shall be installed, maintained, and operated so as to minimize any fugitive escape of VOC-laden vapors and shall utilize the following specified control devices:

Source ID No.	Source Description	Control Device ID No.	Control Device Description	Emission Point ID No.
OP-01	M3000 8-unit, 4 color, heatset, Offset Web Printing Press	F-01	Thermal Oxidizer	S-28
OP-02	M3000 8-unit, 4 color, heatset, Offset Web Printing Press	F-02	Thermal Oxidizer	S-29
OP-03	Heidelberg Harris M1000 8-unit, 4 color, heatset, Offset Web Printing Press	F-03	Catalytic Oxidizer	S-30
OP-04	Man Roland, Rotoman SS, 8-unit, 4 color, heatset, Offset Web Printing Press (M1000)	F-04	Thermal Oxidizer	S-31
OP-05	Man Roland, Rotoman SS, 8-unit, 4 color, heatset, Offset Web Printing press (M1000)	F-05	Thermal Oxidizer	S-32
OP-06	M1000 8-unit, 4 color, heatset, Offset Web Printing Press	F-06	Thermal Oxidizer	S-33
OP-07	M1000 8-unit, 4 color, heatset, Offset Web Printing Press	F-07	Thermal Oxidizer	S-34
OP-08	M1000 8-unit, 4 color, heatset, Offset Web Printing Press	F-08	Thermal Oxidizer	S-35
OP-09	M3000 8-unit, 4 color, heatset, Offset Web Printing Press	F-09	Thermal Oxidizer	S-36
OP-10	M3000 8-unit, 4 color, heatset, Offset Web Printing Press	F-10	Thermal Oxidizer	S-37
OP-11	M3000 8-unit, 4 color, heatset, Offset Web Printing Press	F-11	Thermal Oxidizer	S-38
OP-12	M3000 8-unit, 4 color, heatset, Offset Web Printing Press	F-12	Thermal Oxidizer	S-39

[45CSR14, R14-0012, 4.1.2.a]

5.1.2. Maximum hourly and annual emissions from the operation of each heatset web offset lithographic presses identified under 5.1.1, as emitted from the appropriate control device, shall not exceed those limits as specified in Appendix B. The hourly PM_{10} emission limits from Appendix B shall demonstrate compliance with the less stringent 45CSR§6-4.1 hourly particulate matter emission limits for emission points S-28, S-29, S-30, S-31, S-32, S-33, S-34, S-35, S-36, S-37, S-38, and S-39.
[45CSR14, R14-0012, 4.1.2.b; 45CSR§6-4.1]

5.1.3. At all times the presses as identified under 5.1.1 are engaged in printing operations, each of the press dryers shall vent to the specified control device and they shall not be by-passed, disconnected, or otherwise rendered ineffective in the control of VOCs from the printing operations.
[45CSR14, R14-0012, 4.1.2.c]

5.1.4. Each oxidizer exhaust fan on each heatset web offset lithographic presses listed under 5.1.1 shall be equipped and operated with a process interlock to ensure that the fan continuously effects a negative operating pressure on each of the unit press dryers.
[45CSR14, R14-0012, 4.1.2.d]

5.1.5. The catalytic oxidizer, identified as F-03, shall maintain a minimum VOC destruction efficiency of 97.5% by weight during all times of operation. The catalytic oxidizer shall be monitored and operated according to the following conditions:

a. The permittee shall install, calibrate, and maintain devices to continuously monitor and record that the following conditions are met during all times of operation:

Operating Parameter	F-03
Inlet Catalyst Bed Temperature Range (°F)	550 – 850
Maximum Outlet Catalyst Bed Temperature (°F)	1,100
Minimum Catalyst Bed Temperature Rise (°F)	200
Maximum Catalyst Bed Temperature Rise (°F)	400

b. The catalytic oxidizer shall be equipped and operated with a process interlock to ensure that a maximum pressure drop of 13 inches of water is continuously effected across the catalyst bed.

c. The permittee shall maintain records sufficient to demonstrate that the following conditions are met during all times of operation:

Operating Parameter	F-03
Minimum Inlet Air Flow Rate (scfm)	7,000
Minimum Catalyst Bed Volume (ft^3)	39
Maximum VOC Load to Catalytic Oxidizer (lb/hr)	196

d. The catalytic oxidizer shall be equipped and operated with an interlock that prevents the outlet catalyst bed temperature from exceeding 1,100 °F.

[45CSR14, R14-0012, 4.1.2.e]

5.1.6. Each thermal oxidizer, identified in Permit Application R14-0012B as F-01, F-02, and F-04 though F-12, shall maintain a minimum VOC destruction efficiency of 97.50 %, by weight, during all times of operation. Each thermal oxidizer shall be monitored and operated according to the following conditions:

a. The thermal oxidizer shall maintain a firebox temperature of no less than 1,250 °F (677 °C). The owner or operator shall install, calibrate, maintain, and continuously operate a monitoring device for the measurement of the thermal oxidizer firebox temperature. The monitoring device is to be certified by the manufacturer to be accurate within ± 1 % in degrees Fahrenheit.

[45CSR14, R14-0012, 4.1.2.f]

5.1.7. The following equipment shall not exceed the specified maximum design heat inputs (MDHI) and maximum fuel usage limits:

M1000 with Catalytic Oxidizer (OP-03 and F-03)[(1)]	
Number of dryers	2
Dryer MDHI (mmBtu/hr)	3.70
Catalytic Oxidizer Afterburner MDHI	3.02
Total MDHI	10.42
Maximum Annual Natural Gas Usage (mmSCF/yr)	50.40
Maximum Annual LPG Usage (gallons/yr)	19,343
M1000 with Thermal Oxidizer (OP-04, 05, 06, 07, 08 and F-04, 05, 06, 07, 08)[(1)]	
Number of dryers	2
Dryer MDHI (mmBtu/hr)	7.00
Thermal Oxidizer Afterburner MDHI	N/A
Total MDHI	14.00
Maximum Annual Natural Gas Usage (mmSCF/yr)	72.87
Maximum Annual LPG Usage (gallons/yr)	25,989
M3000 with Thermal Oxidizer (OP-01, 02, 09, 10, 11, 12 and F-01, 02, 09, 10, 11, 12)[(1)]	
Number of dryers	2
Dryer MDHI (mmBtu/hr)	8.00
Thermal Oxidizer Afterburner MDHI	n/a
Total MDHI	16.00
Maximum Annual Natural Gas Usage (mmSCF/yr)	85.42
Maximum Annual LPG Usage (gallons/yr)	29,702

[(1)] The limits are on a per unit basis and are not aggregated for all similar units.

[45CSR14, R14-0012, 4.1.2.g]

5.1.8. The thermal oxidizers identified as F-01, F-02, and F-04 through F-12 shall be limited to consuming propane or pipeline quality natural gas. The sulfur concentration of the propane supplied to the facility shall not exceed 169 ppm by weight.
[45CSR14, R14-0012, 4.1.2.h]

5.1.9. Visible particulate matter generate from the thermal and catalytic oxidizers identified as F-01 through F-12 shall not be greater than or equal to 20% opacity except for visible particulate matter emissions less than 40% for a period or periods aggregating no more than 8 minutes per start-up.
[45CSR14, R14-0012, 4.1.2.i; 45CSR§§6-4.3 and 4.4]

5.1.10. All used rags containing any washing and clean-up solvents shall be stored in closed containers until their removal from the facility.
[45CSR14, R14-0012, 4.1.2.j]

5.1.11. Material types used for the following specified purposes shall be limited to the maximum specified VOC and HAP contents:

Material	**VOC Contents[(1)]**		**HAP Contents (lb/gal)**		
	Weight %	**lb/gal**	**Xylene**	**Ethylbenzene**	**Naphthalene**
Inks	44.00	3.67	0.00	0.00	0.00
Auto Blanket Wash (on rolls)	30.00	0.14	0.00	0.00	0.00
Auto Blanket Wash	30.00	2.19	0.00	0.00	0.06
Blanket Wash	No limit	6.58	0.07	0.00	0.00
Fountain Solution	No limit	2.09	0.00	0.00	0.00
Clean Up Solvent	No limit	6.43	0.30	0.08	0.00

(1) The material must meet both limits where applicable.

[45CSR14, R14-0012, 4.1.2.k]

5.1.12. The permittee shall use no fountain solution that contains a restricted alcohol. For the purposes of this permit, a "restricted alcohol" shall be defined as an alcohol which contains only one hydroxyl (-OH) group and less than five (5) carbon atoms.
[45CSR14, R14-0012, 4.1.2.l]

5.1.13. The permittee shall use no clean-up solvent with a VOC composite vapor pressure in excess of 25 mm Hg (@ 68 °F).
[45CSR14, R14-0012, 4.1.2.m]

5.1.14. The following operating parameters apply to the Blanket Wash Storage Tank:

a. Maximum capacity of 2,000 gallons.

b. Conservation vent setting range of -0.5 psig to +0.5 psig.

c. The maximum nominal rating of any pump used to load blanket wash into the storage tank shall not exceed 100 gallons per minute (GPM).

[45CSR14, R14-0012, 4.1.2.n]

5.2. Monitoring Requirements

5.2.1. For the purpose of determining compliance with the opacity limits of condition 5.1.9, 45CSR§§6-4.3 and 4.4, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 C.F.R. Part 60, Appendix A, Method 22 or from the lecture portion of the 40 C.F.R. Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at the source(s) using the procedures and requirements of 45CSR7A as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A 45CSR7A observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR14, R14-0012, 4.2.15]

5.3. Testing Requirements

5.3.1. Within 180 days of initial startup of each heatset lithographic offset press, and at such times thereafter as may be required by the USEPA Administrator or the Director of the Division of Air Quality, the permittee shall conduct, or have conducted, a performance test on the thermal oxidizer to determine compliance with the minimum VOC destruction efficiency and shall demonstrate compliance with the hourly NO_x and CO emission limits while combusting both natural gas and LPG (NO_x only for LPG) as required under Section 5.1. Upon approval from the Director, NO_x and CO testing may be waived for similar units that have previously been determined to be in compliance through testing.
[45CSR14, R14-0012, 4.3.3]

5.3.2. Testing requirements for heatset lithographic offset press OP-03 shall be the following:

a. The permittee shall, within one hundred twenty (120) days of the installation of a new catalyst bed, conduct, or have conducted, a performance test on the catalytic oxidizer (F-03) to determine compliance with the minimum VOC destruction efficiency as required under Section 5.1.

b. Upon reaching 20,000 hours of oxidizer operation on a catalyst, the permittee shall conduct, or have conducted, within thirty (30) days, a performance test on the oxidizer to determine compliance with the minimum VOC destruction efficiency as required under Section 5.1.

c. Thereafter fulfill the above testing requirement at 20,000 hours in 5.3.2.b, the permittee shall determine the VOC destruction efficiency once every five years except when the catalyst bed has been schedule to be replaced within this five year period. Replacement of the catalyst bed shall re-institute the requirements in 5.3.2.a.

d. Thereafter fulfill the above testing requirement at 20,000 hours in 5.3.2.b, the permittee shall determine the viability of the catalyst bed in achieving the minimum VOC destruction efficiency once every year except when the catalyst bed has been schedule to be replace during the respective calendar year.

[45CSR14, R14-0012, 4.3.4]

5.3.3. All tests required by Section 5.3 shall be in accordance with 3.3.1 and 3.3.2.
[45CSR14, R14-0012, 4.3.7]

5.3.4. With respect to any mandatory testing required under Section 5.3, the permittee shall conduct the tests within the mandatory schedule unless granted a variance from such schedule by the Director of the Division of Air Quality upon request from the permittee.
[45CSR14, R14-0012, 4.3.10]

5.4. Recordkeeping Requirements

5.4.1. For the purposes of determining on-going compliance with the limits set forth in 5.1.2, the permittee shall maintain records of the following on an individual press basis:

a. The hours of operation of each heatset lithographic web offset press; and

b. The name and product number of each ink, fountain solution, blanket wash, auto blanket wash, and clean-up solvent (referred to hereafter as "material") used in the operation of each offset press; and

c. Monthly and twelve month rolling total records of the amount of natural gas and LPG that is combusted in the press dryers and oxidation equipment.

d. The mass of VOC and speciated HAPs of each material and the volume of each material used each month.

e. Within fifteen (15) days of the last day of each month, the permittee shall compile monthly records that contains the following information: hourly, monthly, and rolling twelve month emission rates for VOCs and speciated HAPs from each of the offset presses listed under 5.1.1. The report shall break down the emissions. The VOC and speciated HAP emission rates shall be calculated using the following formulas:

1. The mass of VOCs and speciated HAPs *per volume* of each material shall be determined by one of the following methods:

   i. Certified Product Data Sheets ("Certified Product Data Sheets" shall have the definition assigned to them under 40 C.F.R. 63, Subpart KK) provided by the material supplier, or

   ii. 40 C.F.R. 60, Appendix A, Method 24.

2. The mass of VOCs and speciated HAPs of each material used on a monthly basis, shall be calculated using the following formula:

   $Mass_{(pounds\ of\ VOCs,\ HAPs/Month)} = A * B$

   Where: A = Monthly material usages in gallons per month
   B = VOCs and speciated HAPs content of the materials used in pounds per gallons as determined under 5.4.1.5.a.

3. The annual, monthly, and hourly emission rates of VOCs and speciated HAPs shall be calculated in the following manner:

   i. The annual emission rate of VOCs and aggregate and speciated HAPs shall be calculated as the sum of the monthly emission rates of VOCs and speciated HAPs, respectively, from the previous twelve (12) months.

   ii. The monthly emission rate of VOCs and aggregate and speciated HAPs shall be calculated, on a monthly basis, using the following formulas:

   (A) For offset stack (F-01 through F-12) emissions from the use of inks, blanket wash, auto blanket wash, and fountain solution (but not attributable to fuel combustion):

   $Emission\ rate_{(pounds\ of\ VOCs,\ HAPs/Month)} = C * (1\text{-}WR) * (CapE) * (1\text{-}CE_o)$

   (B) For fugitive printing emissions from the use of inks, blanket wash, auto blanket wash, and fountain solution:

$$\text{Emission rate}_{(\text{pounds of VOCs, HAPs/Month})} = C * (1\text{-}WR) * (1\text{-}CapE)$$

(C) For clean-up solvent emissions:

$$\text{Emission rate}_{(\text{pounds of VOCs, HAPs/Month})} = C * (1\text{-}WR) * (1\text{-}CapE)$$

(D) Where:

$C = \text{Mass}_{(\text{pounds of VOCs, HAPs/Month})}$ attributed to specified material(s)
WR = Web Retention Factor
CapE = Capture Efficiency
CE_o = Minimum destruction efficiency of oxidation method

iii. The hourly emission rates of VOCs and aggregate and speciated HAPs shall be calculated, on a monthly basis, using the following formula:

$$\text{Emission rate}_{(\text{pounds of VOCs, HAPs/Hour})} = \text{Emission rate}_{(\text{pounds of VOCs, HAPs/Month})}/D$$

Where: D = Monthly hours of specific offset press operations

4. The specified values used in the calculations required under 5.4.1.e.2 and 5.4.1.e.3 shall have the values given in the following table for the specified materials:

Material	WR	CapE	CE_o
Inks	0.15	1.00	0.975
Blanket Wash	0.00	0.40	0.975
Auto Blanket Wash	0.00	0.40	0.975
Fountain Solution	0.00	0.70	0.975
Clean-up Solvent	n/a	0.40	0

f. The permittee shall maintain records of the specified oxidizer operating parameters to show compliance with the requirements identified in 5.1.6 and 5.1.7 of this permit.

[45CSR14, R14-0012, 4.2.4 and 4.2.5]

5.4.2. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

5.4.3. For the purpose of demonstrating compliance with condition 5.1.9, the permittee shall maintain records of the visible emission opacity tests conducted. Said records shall be maintained on-site or in a readily accessible off-site location maintained in accordance with 3.4.2 of this permit.
[45CSR14, R14-0012, 4.4.4]

5.5. Reporting Requirements

5.5.1. Any exceedance(s) of the allowable visible emission requirement for any emission source discovered during observations using 40 C.F.R. Part 60, Appendix A, Method 9 or 22 (condition 5.2.1) shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days of the occurrence and shall include, at a minimum, the following information: the results of

the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR14, R14-0012, 4.5.3]

5.5.2. The permittee shall notify the Director, in writing, of the date on which the catalyst bed in the catalytic oxidizer, identified as F-03, is to be replaced as part of scheduled or normal maintenance practices. This notification shall be made at least thirty days prior to the scheduled replacement. If the catalyst bed is replaced and it is not part of scheduled or normal maintenance, the permittee shall notify the Director, in writing, of the date on which the catalyst bed is to be or was replaced. This notification shall be made as soon as practical, but no later than seven days after such replacement has taken place and shall include the rationale for such replacement. Records of notifications shall be maintained in accordance with condition 3.4.2 of this permit.
[45CSR14, R14-0012, 4.5.4]

5.6. Compliance Plan

5.6.1. None

6.0 Ink Manufacturing and Blending Facility [emission unit ID(s): AC1, AEC1, AW1, CB1, CK1, CR1, CR2, CY1, R1A, R1B, R2, ABt1, MBt1, ECt1, M1, M2, M3, M4, M5, M6, M7, BL-01, BL-02, BL-03, CL-01, CL-02, CL-03, CYL-01, CYL-02, CYL-03, RES-01, RES-02, RESL-01, RESL-02, RL-01, RL-02, RL-03, YL-01, YL-02, YL-03, T-11, T-12, T-13, T-14, T-15]

6.1. Limitations and Standards

6.1.1. The following table provides a list of storage/mixing tanks and associated stored materials authorized to operate by this permit at the subject facility. The tanks shall be installed, maintained, and operated so as to minimize any fugitive escape of VOC-laden vapors from such vessels:

ID	Type	Nominal[1] Volume (gal)	Calculated[2] Volume (gal)	Material Stored or Blended
AC1	Storage	20,000	22,486	Clay Concentrate
AEC1	Storage	8,000	9,280	Ethyl Cellulose Compound
AW1	Storage	8,000	9,280	Wax Compound
CB1	Storage	10,000	11,457	Blue Concentrate
CK1	Storage	10,000	11,457	Black Concentrate
CR1	Storage	10,000	11,457	Rubine Red Concentrate
CR2	Storage	8,000	9,280	Barium Lithol Concentrate
CY1	Storage	12,000	13,862	Yellow Concentrate
R1A	Storage	30,000	30,516	Resinate #1
R1B	Storage	30,000	30,516	Resinate #1
R2	Storage	30,000	30,516	Resinate #2
ABt1	Tote	350	n/a	Alkali Blue
MBt1	Tote	350	n/a	Miluri Blue
ECt1	Tote	554	n/a	Ethyl Cellulose
M1	Mixing	5,000	7,144	Yellow Ink Mixing
M2	Mixing	5,000	7,144	Red Ink Mixing
M3	Mixing	5,000	7,144	Blue Ink Mixing
M4	Mixing	5,000	7,144	Black Ink Mixing
M5	Mixing	5,000	7,144	Coated Extender Mixing
M6	Mixing	5,000	7,144	Uncoated Extender Mixing
M7	Mixing	5,000	7,144	Ethyl Cellulose Mixing
BL-01	Mixing	1,476	1,375	Black
BL-02	Mixing	2,056	1,908	Black
BL-03	Mixing	2,839	2,632	Black
CL-01	Mixing	1,476	1,375	Clay
CL-02	Mixing	2.056	1,908	Clay
CL-03	Mixing	2,839	2,632	Clay
CYL-01	Mixing	1,476	1,375	Blue
CYL-02	Mixing	2,056	1,908	Blue
CYL-03	Mixing	2,839	2,632	Blue
RES-01	Storage	2,839	2,632	Resinate
RES-02	Storage	2,839	2,632	Resinate
RESL-01	Storage	2,839	2,632	Resinate
RESL-02	Storage	2,839	2,632	Resinate
RL-01	Mixing	1,476	1,375	Red
RL-02	Mixing	2,056	1,908	Red
RL-03	Mixing	2,839	2,632	Red
YL-01	Mixing	1,476	1,375	Yellow
YL-02	Mixing	2,056	1,908	Yellow
YL-03	Mixing	2,839	2,632	Yellow
T-11	Storage	10,000	11,457	Yellow R/G Printing Ink
T-12	Storage	8,000	9,820	Red R/G Printing Ink
T-13	Storage	10,000	11,457	Red R/G Printing Ink

ID	Type	Nominal[1] Volume (gal)	Calculated[2] Volume (gal)	Material Stored or Blended
T-14	Storage	8,000	9,820	Black R/G Printing Ink
T-15	Storage	10,000	11,457	R/G Extender

(1) Nominal capacity as assigned by manufacturer.
(2) Capacity as calculated from tank dimensions.
(3) n/a = not applicable: Totes are reusable sealed containers. Material is delivered to site already in the "totes."

[45CSR14, R14-0012, 4.1.3.a]

6.1.2. The maximum annual throughput of the materials in the following table shall not be exceeded.

Tank ID	Material Stored	Max Throughput (gallons)
AC1	Clay Concentrate	852,055
AEC1	Ethylcellulose Compound	777,526
AW1	Wax Compound	449,921
CB1	Blue Concentrate	893,039
CK1	Black Concentrate	838,836
CR1	Rubine Red Concentrate	677,334
CR2	Barium Lithol Concentrate	491,834
CY1	Yellow Concentrate	1,295,742
R1A, R1B	Resinate #1	6,703,222
R2	Resinate #2	2,958,580
ABt1	Alkali Blue	80,994
MBt1	Miluri Blue	25,448
T-11	Yellow R/G Printing Ink	2,072,091
T-12	Red R/G Printing Ink	1,351,523
T-13	Blue R/G Printing Ink	991,432
T-14	Black R/G Printing Ink	1,116,284
T-15	R/G Extender	3,379,670

[45CSR14, R14-0012, 4.1.3.b]

6.1.3. All VOC-laden vapors resulting from working or breathing losses from any of the tanks listed in 6.1.1 shall either be vented to the SRS or recovered through the use of a vapor-balance system.
[45CSR14, R14-0012, 4.1.3.c]

6.1.4. Emissions resulting from the ink manufacturing and blending operations identified under 6.1.2, as emitted from the SRS, shall not exceed those limits as specified in Appendix A. Compliance with the Appendix A emission limits for the storage/mixing tanks identified under 6.1.2, as emitted from the SRS, shall be demonstrated through compliance with conditions 6.1.1, 6.1.2, and 6.1.3.
[45CSR14, R14-0012, 4.1.3.d; 45CSR§30-5.1.c]

6.1.5. The operation of the sources listed under 6.1.1 shall meet all the applicable requirements under 40 C.F.R. 63, Subpart KK. See condition 4.1.12.
[45CSR14, R14-0012, 4.1.3.e]

6.1.6. The amount of ink concentrates/finished inks produced and loaded out shall not exceed the following annual limits on a twelve month (12) month rolling total:

Table 6.1.6 – Ink Concentrate Manufacturing and Loadout Limits

Product Line	Maximum Annual Production Volume (gallons/year)	Maximum Amount Loaded Out Per Year (gallons/year)
Yellow	1,200,000	2,072,091
Red	1,050,000	1,351,523
Blue	1,050,000	991,432
Black	1,050,000	1,116,284
Clay	1,200,000	960,000
Resonate	9,500,000	10,200,000
Coated Extender	1,791,632	1,791,632
Uncoated Extender	1,588,038	1,588,038

[45CSR14, R14-0012, 4.1.3.f]

6.1.7. The maximum rated capacity of any pump used to loadout ink concentrate shall not exceed 120 gallons per minute.
[45CSR14, R14-0012, 4.1.3.g]

6.1.8. The permittee is limited to loading out a maximum of five (5) tanks at any given time.
[45CSR14, R14-0012, 4.1.3.h]

6.1.9. Rail and truck tankers shall be loaded, at a minimum, using a submerged/bottom fill method. For the purposes of this permit, submerged fill is defined as a method of liquid vessel filling in which the fill pipe is extended into the vessel a sufficient distance so as to enable the fill pipe to be submerged for a minimum of 80% of a complete filling of the vessel.
[45CSR14, R14-0012, 4.1.3.i]

6.2. Monitoring Requirements

6.2.1. Reserved.

6.3. Testing Requirements

6.3.1. Reserved.

6.4. Recordkeeping Requirements

6.4.1. For the purposes of determining compliance with maximum throughput limits set forth in 6.1.2, the applicant shall maintain a monthly record of the amount, in gallons, of each material unloaded into the permanent storage tanks listed under 6.1.1.
[45CSR14, R14-0012, 4.2.6]

6.4.2. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

6.5. Reporting Requirements

6.5.1. Reserved.

6.6. Compliance Plan

6.6.1. None.

7.0 Chrome Plating [emission point ID(s): CP-06, CP-07, CP-08]

7.1. Limitations and Standards

7.1.1. The following table provides a list of chrome plating tanks authorized to operate at the subject facility by this permit. The chrome plating operations shall utilize the specified control devices.

Tank ID No.	Description	Control Device ID No.	Control Device	Emission Point ID No.
CP-06	Chrome Plating Tank	CS-06	CMP Scrubber	S-06
CP-07	Chrome Plating Tank	CS-07	CMP Scrubber	S-07
CP-08	Chrome Plating Tank	CS-08	CMP Scrubber	S-08

[45CSR14, R14-0012, 4.1.4.a]

7.1.2. Pursuant to 40 C.F.R. 63, Subpart N, emissions to the atmosphere from each hard chromium electroplating tank operation shall not exceed those limits as specified in Appendix A.
[45CSR14, R14-0012, 4.1.4.b]

7.1.3. The operation of the sources listed under 7.1.1 shall meet all the applicable requirements under 40 C.F.R. 63, Subpart N.
[45CSR14, R14-0012, 4.1.4.c]

7.1.4. The pertinent sections of 40 C.F.R. 63, Subpart N, applicable to the chrome plating operations include the following:

a. **Standards for hard chromium electroplating tanks.** During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 milligrams of total chromium per dry standard cubic meter (mg/dscm) of ventilation air (6.6×10^{-6} grains per dry standard cubic foot [gr/dscf]).
[40 C.F.R. §§63.342(c)(1) and (c)(1)(i)]

b. **Work practice standards.** The work practice standards of this section address operation and maintenance practices. All owners or operators subject to the hard chromium electroplating standards in 7.1.4.a are subject to these standards.
[40 C.F.R. §63.342(f)]

1. At all times, including periods of startup, shutdown, and malfunction, the owners or operators shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment, in a manner consistent with good air pollution control practices, consistent with the operation and maintenance plan required by 7.1.4.b.3.
[40 C.F.R. §63.342(f)(1)(i)]

i. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan required by 7.1.4.b.3.
[40 C.F.R. §63.342(f)(1)(ii)]

ii. Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.
[40 C.F.R. §63.342(f)(1)(iii)]

2. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the source.
[40 C.F.R. §63.342(f)(2)(i)]

i. Based on the results of a determination made under 7.1.4.b.3, the Administrator may require that an owner or operator of an affected source make changes to the operation and maintenance plan required by 7.1.4.b.3 for that source. Revisions may be required if the Administrator finds that the plan:
[40 C.F.R. §63.342(f)(2)(ii)]

a. Does not address a malfunction that has occurred;
[40 C.F.R. § 63.342 (f) (2) (ii) (A)]

(B) Fails to provide for the operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices; or
[40 C.F.R. § 63.342 (f) (2) (ii) (B)]

(C) Does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable.
[40 C.F.R. § 63.342 (f) (2) (ii) (C)]

3. **Operation and maintenance plan.**

i. The owner or operator of an affected source subject to the work practices of 7.1.4.b shall prepare an operation and maintenance plan to be implemented upon startup. The plan shall be incorporated by reference into the source's Title V Permit.
[40 C.F.R. §§63.342(f)(3)(i) and 63.343(a)(2)]

(A) The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of this equipment;
[40 C.F.R. §63.342(f)(3)(i)(A)]

(B) For sources using an add-on air pollution control device or monitoring equipment to comply with 40 C.F.R. 63, Subpart N, the plan shall incorporate the work practice standards for that device or monitoring equipment, as identified in Table 1 of 40 C.F.R. 63, Subpart N. For a composite mesh-pad (CMP) system, the Table 1 work practice standards are as follows:

Table 1 to 40 C.F.R. §63.342 – Summary of Work Practice Standards

Control technique	Work practice standards	Frequency
Composite mesh-pad (CMP) system	1. Visually inspect device to ensure there is proper drainage, no chronic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device.	1. 1/quarter.
	2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.	2. 1/quarter.
	3. Visually inspect ductwork from tank to the control device to ensure there are no leaks.	3. 1/quarter.
	4. Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations.	4. Per manufacturer

[40 C.F.R. §63.342(f)(3)(i)(B) and Table 1 to 40 C.F.R. §63.342]

(C) The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and
[40 C.F.R. §63.342(f)(3)(i)(D)]

(D) The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control devices, and process control system monitoring equipment and for implementing corrective actions to address such malfunctions.
[40 C.F.R. §63.342(f)(3)(i)(E)]

ii. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
[40 C.F.R. §63.342(f)(3)(ii)]

iii. The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of 40 C.F.R. 63, Subpart N. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, by the Administrator for a period of 5 years after each revision to the plan.
[40 C.F.R. §63.342(f)(3)(v)]

[45CSR14, R14-0012, 4.1.4.c; 45CSR34]

7.2. Monitoring Requirements

7.2.1. The owner or operator of an affected source subject to the emission limitations of 40 C.F.R. 63, Subpart N set forth in 7.1.4.a shall conduct monitoring according to the type of air pollution control technique that is

used to comply with the emission limitation. The monitoring required to demonstrate continuous compliance with the emission limitations using a composite mesh-pad system are as follows:

a. During the initial performance test, the owner or operator of an affected source, or a group of affected sources under common control, complying with the emission limit in 7.1.4.a through the use of a composite mesh-pad system shall determine the outlet chromium concentration using the test methods and procedures in 40 C.F.R. §63.344(c), and shall establish as a site-specific operating parameter the pressure drop across the system, setting the value that corresponds to compliance with the applicable emission limitation, using the procedures in 40 C.F.R. §63.344(d)(5). An owner or operator may conduct multiple performance tests to establish a range of compliant pressure drop values, or may set as the compliant value the average pressure drop measured over the three test runs of one performance test and accept ± 2 inch of water column from this value as the compliant range.

b. On and after the date on which the initial performance test is required to be completed under 40 C.F.R. §63.7, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the pressure drop across the composite mesh-pad system once each day that any affected source is operating. To be in compliance with the standards, the composite mesh-pad system shall be operated within ± 2 inch of water column of the pressure drop value established during the initial performance test, or shall be operated within the range of compliance values for pressure drop established during multiple performance tests.

Note: For CMP Scrubber #1 (Control Device CS-06), performance testing was conducted August 11-12, 1997. The average pressure drop was 4.453 in. H_2O with an average chromium concentration of 0.00999 mg/dscm. For CMP Scrubber #2 (Control Device CS-07), performance testing was conducted on May 12, 1999. The average pressure drop was 3.0 in. H_2O with an average chromium concentration of 0.00343 mg/dscm.

[45CSR14, R14-0012, 4.1.4.c; 45CSR34; 40 C.F.R. §§63.343(c) and (c)(1)]

7.3. Testing Requirements

7.3.1. The facility shall conduct an initial performance test using Method 306 or 306A as required under 40 C.F.R. §63.7, within 180 days of startup for each hard chromium electroplating tank operation as listed under 7.1.1 using the procedures and test methods listed in 40 C.F.R. §§63.7 and 63.344. All testing shall be conducted in accordance with Conditions 3.3.2 and 3.3.3. With respect to any mandatory testing, the permittee shall conduct the tests within the mandatory schedule unless granted a variance from such schedule by the Director of the Division of Air Quality upon request from the permittee.
[45CSR14, R14-0012, 4.3.1, 4.3.7, and 4.3.10; 45CSR34; 40 C.F.R. §§63.344(a), (c), and (c)(1)]

7.3.2. The operation of the sources identified under Section 7.1 shall meet all applicable testing requirements under 40 C.F.R. 63, Subpart N and the General Provisions of 40 C.F.R. 63, Subpart A.
[45CSR14, R14-0012, 4.3.6]

7.4. Recordkeeping Requirements

7.4.1. The operation of the sources listed under 7.1.1 shall comply with all applicable reporting and record-keeping requirements under 40 C.F.R. 63, Subpart N and any reporting and record-keeping requirements under the General Provisions of 40 C.F.R. 63 referenced therein. The pertinent recordkeeping requirements of 40 C.F.R. 63, Subpart N, applicable to the chrome plating operations include the following:

a. The owner or operator of each affected source subject to 40 C.F.R. 63, Subpart N shall fulfill all recordkeeping requirements outlined in this section, 40 C.F.R. §63.346, and in the General Provisions to 40 C.F.R. 63, according to the applicability of subpart A of Part 63 as identified in Table 1 of 40 C.F.R. 63, Subpart N.
[40 C.F.R. §63.346(a)]

b. The owner or operator of an affected source subject the provisions of 40 C.F.R. 63, Subpart N shall maintain the following records for such source:
[40 C.F.R. §63.346(b)]

1. Inspection records for the add-on air pollution control device, if such a device is used, and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of 7.1.4.b and Table 1 of 40 C.F.R. §63.342 have taken place. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection.
[40 C.F.R. § 63.346(b)(1)]

2. Records of all maintenance performed on the affected source, the add-on air pollution control device, and monitoring equipment;
[40 C.F.R. §63.346(b)(2)]

3. Records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control, and monitoring equipment;
[40 C.F.R. §63.346(b)(3)]

4. Records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
[40 C.F.R. §63.346(b)(4)]

5. Other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan required by 7.1.4.b.3;
[40 C.F.R. § 63.346(b)(5)]

6. Test reports documenting results of all performance tests;
[40 C.F.R. §63.346(b)(6)]

7. All measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance with the special compliance procedures of 40 C.F.R.§63.344(e);
[40 C.F.R. §63.346(b)(7)]

8. Records of monitoring data required by 7.2.1 that are used to demonstrate compliance with the standard including the date and time the data are collected;
[40 C.F.R. §63.346(b)(8)]

9. The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control, or monitoring equipment; **[40 C.F.R. §63.346(b)(9)]**

10. The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control, or monitoring equipment;
[40 C.F.R. §63.346(b)(10)]

11. The total process operating time of the affected source during the reporting period;
[40 C.F.R. §63.346(b)(11)]

12. All documentation supporting the notification and reports required by 40 C.F.R. §§63.9, 63.10, and 63.347.
[40 C.F.R. § 63.346(b)(16)]

c. All records shall be maintained for a period of 5 years in accordance with 40 C.F.R. §63.10(b)(1).
[**40 C.F.R. § 63.346(c)]**

[45CSR14, R14-0012, 4.2.11; 45CSR34]

7.4.2. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

7.5. Reporting Requirements

7.5.1. The operation of the sources listed under 7.1.1 shall comply with all applicable reporting and record-keeping requirements under 40 C.F.R. 63, Subpart N and any reporting and record-keeping requirements under the General Provisions of 40 C.F.R. 63 referenced therein. The pertinent reporting requirements of 40 C.F.R. 63, Subpart N, applicable to the chrome plating operations include the following:

a. **Ongoing compliance status reports.** The owner or operator of an affected source for which compliance monitoring is required in accordance with 7.2.1 shall prepare a summary report to document the ongoing compliance status of the source. The report shall be submitted semiannually and must contain the following information:
[40 C.F.R. §§63.347(g)(1) and (g)(3)]

1. The company name and address of the affected source:
[40 C.F.R. §63.347(g)(3)(i)]

2. An identification of the operating parameter that is monitored for compliance determination, as required by 7.2.1;
[40 C.F.R. §63.347(g)(3)(ii)]

3. The relevant emission limitation for the affected source, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of compliance status required by 40 C.F.R. §63.347(e);
[40 C.F.R. §63.347(g)(3)(iii)]

4. The beginning and ending dates of the reporting period;
[40 C.F.R. §63.347(g)(3)(iv)]

5. A description of the type of process performed in the affected source;

[40 C.F.R. §63.347(g)(3)(v)]

6. The total operating time of the affected source during the reporting period;
[40 C.F.R. §63.347(g)(3)(vi)]

7. A summary of operating parameter values, including the total duration of excess emissions during the reporting period as indicated by those values, the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to process upsets, control equipment malfunctions, other known causes, and unknown causes;
[40 C.F.R. §63.347(g)(3)(viii)]

8. A certification by a responsible official, as defined in 40 C.F.R. §63.2, that the work practice standards in 7.1.4.b were followed in accordance with the operation and maintenance plan for the source;
[40 C.F.R. §63.347(g)(3)(ix)]

9. If the operation and maintenance plan required by 7.1.4.b was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emission and/or parameter monitoring exceedances are believed to have occurred, and a copy of the report(s) required by 7.5.2.b documenting that the operation and maintenance plan was not followed;
[40 C.F.R. §63.347(g)(3)(x)]

10. A description of any changes in monitoring, processes, or controls since the last reporting period;
[40 C.F.R. §63.347(g)(3)(xi)]

11. The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
[**40 C.F.R. § 63.347(g)(xii)]**

12. The date of the report.
[**40 C.F.R. § 63.347(g)(xiii)]**

b. If actions taken by the owner or operator during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan required by 7.1.4.b.3.i, the owner or operator shall record the actions taken for that event and shall report by phone such actions within 2 working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within 7 working days after the end of the event, unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator.
[40 C.F.R. §63.342(f)(3)(iv)]

[45CSR14, R14-0012, 4.2.11; 45CSR34]

7.6. Compliance Plan

7.6.1. None

8.0 Boilers [emission unit ID(s): B-01, B-02, B-03, B-04, B-05, B-09]

8.1. Limitations and Standards

8.1.1. The following table provides a list of boilers authorized to operate at the subject facility by this permit. The boilers shall not exceed the specified Maximum Design Heat Input (MDHI), shall utilize the specified control device, shall combust only the specified fuels within the specified fuel consumption limits, and shall not exceed the specified maximum hours of operation.

ID No.	Model No.	MDHI (MMBtu/hr)	Control Device(s)	Maximum Annual Limits[1]		
				Natural Gas (MM ft^3)	LPG[2] (10^3 gal)	Hours of Operation
B-01	Cleaver Brooks D-60-E	52.061	Low-NO_x Burners and FGR	894.22	386.57	No Limit
B-02	Cleaver Brooks D-60-E	52.061	Low-NO_x Burners and FGR			
B-03	Cleaver Brooks CBL-700	54.40	Low-NO_x Burners and FGR	467.200	201.97	No Limit
B-04	Johnston PFTA 1600-4	65.78	Low-NO_x Burners and FGR	564.943	244.23	No Limit
B-05	Johnston PFTA 1600-4	65.78	Low-NO_x Burners and FGR	564.943	244.23	No Limit
B-09	Johnston PFTA 1600-4	65.78	Low-NO_x Burners and FGR	564.943	244.23	No Limit

(1) The limits for B-01 and B-02 are aggregate limits.
(2) LPG = Liquified Petroleum Gas (Propane)

[45CSR14, R14-0012, 4.1.5.a]

8.1.2. The boilers identified as B-01 through B-05, and B-09 shall be limited to consuming propane or pipeline quality natural gas. The sulfur concentration of the propane supplied to the facility shall not exceed 169 ppm by weight.
[45CSR14, R14-0012, 4.1.5.b]

8.1.3. Emissions resulting from the boilers identified under 8.1.1 shall not exceed those limits as specified in Appendix A. The hourly boiler emission limits represent the maximum amount of pollutant emitted over any given period of one hour. Compliance with the Appendix A hourly PM_{10} and SO_2 emission limits for Boilers B-01, B-02, B-03, B-04, B05, and B-09 shall demonstrate compliance with the less stringent hourly particulate matter and SO_2 emission limits of 45CSR§2-4.1.b and 45CSR§10-3.3.f.
[45CSR14, R14-0012, 4.1.5.c; 45CSR§§2-4.1 and 4.1.b; 45CSR§§10-3.3 and 3.3.f]

8.1.4. The emission of Nitrogen Oxides (NO_x) into the atmosphere from the operation of the following boilers shall not exceed the specified limits in pounds/mmBtu of heat input while combusting the specified fuel:

ID No.	Natural Gas	LPG
B-03	0.035	0.22
B-04	0.035	0.15
B-05	0.035	0.15
B-09	0.035	0.15

[45CSR14, R14-0012, 4.1.5.d]

8.1.5. A flue gas recirculation rate shall be utilized for each applicable boiler that is consistent with good engineering practices, manufacturer's recommendations, and data developed during the required stack test so as to guarantee the optimum reduction in the formation of NO_x. The permittee shall, at all times the applicable boilers are in operation, utilize flue gas recirculation.
[45CSR14, R14-0012, 4.1.5.e]

8.1.6. Visible emissions of smoke and/or particulate matter emitted from the boilers identified as B-01 through B-05 and B-09 which are greater than ten (10) percent opacity based on a six minute block average are prohibited. Compliance with this standard is met by restricting the unit size in 8.1.1 and the fuel type in 8.1.2.
[45CSR14, R14-0012, 4.1.5.f; 45CSR§2-3.1; 45CSR§§2A-3.1.a and 3.1.b]

8.1.7. The permittee shall develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance performed on the boilers and their associated control technologies. These records need not include maintenance tasks that have no potential effect on emissions performance.
[45CSR14, R14-0012, 4.1.5.g]

8.1.8. At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. *(B-01, B-02, B-03, B-04, B-05, B-09)*
[45CSR§2-9.2]

8.1.9. **40 C.F.R. 63, Subpart DDDDD.** The NG/LPG-fired boilers shall comply with all applicable requirements for existing affected sources, pursuant to 40 C.F.R. 63, Subpart DDDDD - "National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters" no later than the existing source compliance date of March 21, 2014, or as amended by US EPA.
[40 C.F.R. 63, Subpart DDDDD]

8.2. Monitoring Requirements

8.2.1. At least weekly, visible emission checks of Boilers B-01, B-02, B-03, B-04, B-05, and B-09 shall be conducted. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the unit has visible emissions using the procedures outlined in 40 C.F.R. 60, Appendix A, Method 22. If sources of visible emissions are identified during the checks, or at any other time, the permittee shall conduct a 40 C.F.R. 60, Appendix A, Method 9 evaluation within twenty-four (24) hours. A Method 9 evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions.

The weekly visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 C.F.R. 60, Appendix A, Method 22 or from the lecture portion of the 40 C.F.R. 60, Appendix A, Method 9 certification course.

[45CSR§30-5.1.c]

8.3. Testing Requirements

8.3.1. Within sixty (60) days of achieving the maximum permitted operating rate, but no later than 180 days after initial startup, and at such times thereafter as may be required by the USEPA Administrator or the Director of the Division of Air Quality, the permittee shall conduct, or have conducted, a performance test on one boiler from each of the following groups of boilers: (1) B-01 and B-02; (2) B-03; and (3) B-04, B-05, and B-09. The tests shall demonstrate compliance with the hourly NO_x and CO emission limits while combusting both natural gas and LPG (NO_x only for LPG). Initial tests conducted previously that satisfy the requirements of this condition shall not have to be conducted again upon approval of the Director of the Division of Air Quality. All tests required by this Condition 8.3.1 shall be in accordance with Conditions 3.3.1 and 3.3.2. With respect to any mandatory testing, the permittee shall conduct the tests within the mandatory schedule unless granted a variance from such schedule by the Director of the Division of Air Quality upon request from the permittee.
[45CSR14, R14-0012, 4.3.2, 4.3.7, and 4.3.10]

8.4. Recordkeeping Requirements

8.4.1. For the purposes of determining compliance with maximum fuel combustion throughput limits set forth in 8.1.1, the applicant shall maintain monthly and annual records of the amount of natural gas and/or LPG that is combusted in the boilers.
[45CSR14, R14-0012, 4.2.7]

8.4.2. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

8.4.3. The operation of the sources listed under 8.1.1 shall comply with all applicable reporting and record-keeping requirements under 40 C.F.R. 60, Subpart Dc and any reporting and record-keeping requirements under the General Provisions of 40 C.F.R. 60 referenced therein. The pertinent sections of 40 C.F.R. 60, Subpart Dc, applicable to the boilers include the following:

a. The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided in 40 C.F.R. §60.7. This notification shall include:
[40 C.F.R. §60.48c(a)]

1. The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
[40 C.F.R. §60.48c(a)(1)]

2. If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 C.F.R. §§60.42c or 60.43c.
[40 C.F.R. §60.48c(a)(2)]

3. The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
[40 C.F.R. §60.48c(a)(3)]

b. The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

[40 C.F.R. §60.48c(g)]

c. All records required under 40 C.F.R. §60.48 shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.
[**40 C.F.R. §60.48c(i)]**

[45CSR14, R14-0012, 4.2.13; 45CSR16]

8.4.4. The permittee shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each fuel burning unit as specified in 8.4.4.a. Such records are to be maintained on-site and made available to the Director or his duly authorized representative upon request. Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in electronic form.

a. For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.

[45CSR§§2-8.3.c and 8.3.d; 45CSR§§2A-7.1.a and 7.1.a.1]

8.4.5. The permittee shall maintain records of all monitoring data required by Section 8.2.1 documenting the date and time of each visible emission check, the emission point or equipment identification number, the name or means of identification of the responsible observer, the results of the check, and, if necessary, all corrective actions taken. Should a visible emission observation be required to be performed per the requirements specified in 40 C.F.R. 60, Appendix A, Method 9, the data records of each observation shall be maintained per the requirements of 40 C.F.R. 60, Appendix A, Method 9. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (OOS) or equivalent.
[45CSR§30-5.1.c]

8.5. Reporting Requirements

8.5.1. The owner or operator of a fuel burning unit(s) subject to 45CSR2 shall report to the Director any malfunction of such unit or its air pollution control equipment which results in any excess particulate matter emission rate or excess opacity (i.e., 8.1.7) as provided in one of the following subdivisions:

a. Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Director:

1. The excess opacity period does not exceed thirty (30) minutes within any 24-hour period; and

2. Excess opacity does not exceed 40%.

b. The owner or operator shall report to the Director any malfunction resulting in excess particulate matter or excess opacity, not meeting the criteria set forth in 8.5.1.a, by telephone, telefax, or e-mail by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Director within thirty (30) days providing the following information:

1. A detailed explanation of the factors involved or causes of the malfunction;

2. The date and time of duration (with starting and ending times) of the period of excess emissions;

3. An estimate of the mass of excess emissions discharged during the malfunction period;

4. The maximum opacity measured or observed during the malfunction;

5. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and

6. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule of such implementation.

[45CSR§2-9.3]

8.6. Compliance Plan

8.6.1. None.

9.0 Miscellaneous Operations/Processes [emission unit ID(s): RZ-01, IJ, P-01, P-02, P-03, Truck/Rail Loadout Operations]

9.1. Limitations and Standards

9.1.1. The permittee is authorized to operate a rotogravure cylinder washing machine. The unit is identified in Permit Application R14-0012B as RZ-01 and shall be operated according to the following conditions:

a. Emissions resulting from the operation of the washer identified under 9.1.1 shall not exceed those limits as specified in Appendix A.

b. Pursuant to 40 C.F.R. 63, Subpart KK, Section 40 C.F.R. §63.824, no material used in the operation of the source identified under 9.1.1 shall have a HAP content in excess of eight percent (8%) by weight, of the total volatile matter of the material.

c. The washing unit shall be maintained and operated in such a manner as to minimize solvent loss from cylinder washing operations.

d. The operation of the source listed in 9.1.1 shall meet all the applicable requirements under 40 C.F.R. 63, Subpart KK. See condition 4.1.12.

(RZ-01) **[45CSR14, R14-0012, 4.1.6.a]**

9.1.2. The permittee is authorized to operate ink jet label printing operations. The units are identified in Section 104 of permit application R14-0012B and shall be operated according to the following conditions:

a. Emissions resulting from the operation of the ink jet label printing operations identified under 9.1.2 shall not exceed those limits as specified in Appendix A.

(IJ) **[45CSR14, R14-0012, 4.1.6.b]**

9.1.3. The permittee is authorized to operate recovered solvent loadout operations. The solvent loadout operations shall be operated according to the following conditions:

a. The amount of recovered solvent loaded into railcar and truck tankers shall not exceed 8,000,000 gallons per rolling twelve month (12) month average.

b. The maximum nominal rating of any pump used on the solvent loadout operations shall not exceed 100 gallons per minute.

c. A maximum of one vessel shall be loaded at a time.

d. Rail and truck tankers shall be loaded, at a minimum, using a submerged fill method. For the purposes of this permit, submerged fill is defined as a method of liquid vessel filling in which the fill pipe is extended into the vessel a sufficient distance so as to enable the fill pipe to be submerged for a minimum of 80% of a complete filling of the vessel.

e. Emissions resulting from the operation of the solvent loadout operations identified under 9.1.3 shall not exceed those limits as specified in Appendix A.

[45CSR14, R14-0012, 4.1.6.c]

9.2. Monitoring Requirements

9.2.1. Reserved.

9.3. Testing Requirements

9.3.1. Reserved.

9.4. Recordkeeping Requirements

9.4.1. For the purposes of determining on-going compliance with the limits set forth in 9.1.1.a, the permittee shall use the emissions calculation and record-keeping methodology as described under 4.4.1 with respect to the cylinder washing unit and with a control efficiency of 0.00% (no control device).
[45CSR14, R14-0012, 4.2.8]

9.4.2. For the purposes of determining on-going compliance with the limits set forth in 9.1.2.a, the permittee shall use the emissions calculation and record-keeping methodology as described under 4.4.1 with respect to the ink jet printers and with a control efficiency of 0.00% (no control device). The records and emission calculations for the ink jet printers shall be on an aggregate basis and not per printer.
[45CSR14, R14-0012, 4.2.9]

9.4.3. For the purposes of determining compliance with the maximum recovered toluene limits set forth in 9.1.3, the applicant shall maintain monthly and annual records of the amount of recovered toluene loaded and taken off site.
[45CSR14, R14-0012, 4.2.10]

9.4.4. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

9.5. Reporting Requirements

9.5.1. At such times as may be required by the Director, the permittee shall notify, in writing, the date and time on which solvent loadout operations are going to take place so as to allow West Virginia Division of Air Quality (WVDAQ) personnel to observe the loadout process. The notification shall be sent to the following address:

West Virginia Division of Air Quality
Eastern Panhandle Regional Office
HC 63, Box 2545
Romney, WV 26757

The notification must be received no less than seven (7) days prior to the date the loadout operation is to take place.

Pursuant to 45CSR§4-6.1, if DAQ personnel determine that the solvent loadout operations cause or contribute to an objectionable odor, the permittee shall develop and offer an acceptable control program for the elimination of the cause or contribution of/to the objectionable odor.

[45CSR14, R14-0012, 4.5.1]

9.6. Compliance Plan

9.6.1. None

10.0 Solvent Recovery System (SRS) [emission point ID(s): CA-01, CA-02, CA-03, CA-04, CA-05, CA-06, CA-07, CA-08, CA-09, CA-10, CA-11, CA-12, CA-13, CA-14, CA-15, CA-16, CA-17, CA-18, CA-19, CA-20, CA-21]

10.1. Limitations and Standards

10.1.1. The permittee shall install, maintain, and operate a solvent recovery system (SRS), utilizing carbon adsorption, so as to control VOCs in solvent laden air vented to the SRS. At all times the SRS is in use, it shall be operated in a manner so as to achieve a minimum control device efficiency of 98.25% in the control of VOCs contained in solvent-laden air.

For the purposes of this permit, "control device efficiency" shall be defined as the mass of pollutant exiting a control device divided by the mass of the same pollutant entering into the control device.

[45CSR14, R14-0012, 4.1.7.a]

10.1.2. The operation of the SRS shall meet all the applicable requirements under 40 C.F.R. 63, Subpart KK. See condition 4.1.12.
[45CSR14, R14-0012, 4.1.7.e]

10.2. Monitoring Requirements

10.2.1. The permittee shall show compliance with the minimum control device efficiency under 10.1.1 by one of the following methods:

a. Testing as required under 10.3.1.

b. Develop a method to continuously monitor the control device efficiency of the SRS. Use of a continuous monitoring method for compliance with 10.1.1 is contingent on the following:

1. The submission of a continuous control device efficiency monitoring protocol that details the installation, operation, calibration, and verification procedures used for the proposed monitoring plan. Further, the protocol shall propose the methodology of averaging the collected data to provide an accurate representation of SRS performance to be used in monthly emission limit calculations; and

2. Written approval of the plan submitted under 10.2.1.b.1 by the Director of the Division of Air Quality.

[45CSR14, R14-0012, 4.2.17]

10.3. Testing Requirements

10.3.1. Within 180 days of initial startup of each bank of absorbers, as described in permit applications R14-0012, R14-0012A, R14-0012B, and R14-0012C and at such times thereafter as may be required by the USEPA Administrator or the Director of the Division of Air Quality, the permittee shall conduct, or have conducted, a performance test on each bank of adsorbers to determine compliance with the VOC control device efficiency. After the initial performance test, the permittee shall conduct a performance test on each bank of adsorbers within two (2) years of the previous test unless a different schedule is approved by the

Director of the DAQ. The testing requirements under this condition 10.3.1 shall be waived upon the written approval of a continuous monitoring plan as described under 10.2.1.b. All tests required by this Condition 10.3.1 shall be in accordance with 3.3.1 and 3.3.2. With respect to any mandatory testing, the permittee shall conduct the tests within the mandatory schedule unless granted a variance from such schedule by the Director of the Division of Air Quality upon request from the permittee.
[45CSR14, R14-0012, 4.3.7, 4.3.9, 4.3.10]

10.4. Recordkeeping Requirements

10.4.1. The permittee shall continuously monitor and record the temperature within the adsorber beds and prefilters, and the VOC concentrations at the absorber bed outlets.
[45CSR14, R14-0012, 4.1.7.b]

10.4.2. The permittee shall continuously monitor and record the pressure in the main SLA duct. The pressure shall be maintained at or less than -0.5 inches of water column.
[45CSR14, R14-0012, 4.1.7.c]

10.4.3. All records of monitoring shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0012, 4.2.18]

10.5. Reporting Requirements

10.5.1. The malfunction prevention and abatement plan for the solvent recovery system, submitted with permit application R14-0012, shall be updated by the permittee at least once every two (2) years. Such updates shall be submitted to the Director of the Division of Air Quality upon completion.
[45CSR14, R14-0012, 4.1.7.d]

10.6. Compliance Plan

10.6.1. None

Appendix A: Emission Source (EP) Inventory

Quad/Graphics, Inc. – Permit Number R14-0012
Martinsburg Plant – Identification Number 00300042

Natural Gas/LPG Fired Boilers

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)	Maximum Permitted Emissions: Natural Gas Lbs/Hour	Maximum Permitted Emissions: LPG Lbs/Hour	Maximum Permitted Emissions: Tons/Year	Comments
S-1	Boiler Exhaust Stack	B-01	Boiler Cleaver Brooks Model D-60-E 1,000 HP	B-01	CO NO_x PM_{10} SO_2 VOCs	1.41 1.58 0.47 0.05 0.06	1.84 10.93 0.35 0.82 0.17	6.25 8.48 2.08 0.36 0.29	Boiler has separate hourly emission limits for times of natural gas and LPG (Propane) combustion. Annual emission limit represents worst-case from the combustion of both fuels. All PM emitted is assumed PM_{10}.
S-2	Boiler Exhaust Stack	B-02	Boiler Cleaver Brooks Model D-60-E 1,000 HP	B-02	CO NO_x PM_{10} SO_2 VOCs	1.41 1.58 0.47 0.05 0.06	1.84 10.93 0.35 0.82 0.17	6.25 8.48 2.08 0.36 0.29	Boiler has separate hourly emission limits for times of natural gas and LPG (Propane) combustion. Annual emission limit represents worst-case from the combustion of both fuels. All PM emitted is assumed PM_{10}.
S-3	Boiler Exhaust Stack	B-03	Boiler Cleaver Brooks Model CBL-700 1,300 HP	B-03	CO NO_x PM_{10} SO_2 VOCs	2.01 1.90 0.54 0.05 0.65	1.92 11.42 0.36 0.86 0.18	8.82 9.94 2.38 0.37 2.86	Boiler has separate hourly emission limits for times of natural gas and LPG (Propane) combustion. Annual emission limit represents worst-case from the combustion of both fuels. All PM emitted is assumed PM_{10}.
S-4	Boiler Exhaust Stack	B-04	Boiler Johnston Boiler Company Model PFTA 1,600-4 1,600 HP	B-04	CO NO_x PM_{10} SO_2 VOCs	2.50 2.30 0.07 0.04 0.26	4.60 9.87 0.07 1.04 0.53	11.30 11.36 0.29 0.34 1.20	Boiler has separate hourly emission limits for times of natural gas and LPG (Propane) combustion. Annual emission limit represents worst-case from the combustion of both fuels. All PM emitted is assumed PM_{10}.
S-5	Boiler Exhaust Stack	B-05	Boiler Johnston Boiler Company Model PFTA 1,600-4 1,600 HP	B-05	CO NO_x PM_{10} SO_2 VOCs	2.50 2.30 0.07 0.04 0.26	4.60 9.87 0.07 1.04 0.53	11.30 11.36 0.29 0.34 1.20	Boiler has separate hourly emission limits for times of natural gas and LPG (Propane) combustion. Annual emission limit represents worst-case from the combustion of both fuels. All PM emitted is assumed PM_{10}.
S-9	Boiler Exhaust Stack	B-09	Boiler Johnston Boiler Company Model PFTA 1,600-4 1,600 HP	B-09	CO NO_x PM_{10} SO_2 VOCs	2.50 2.30 0.07 0.04 0.26	4.60 9.87 0.07 1.04 0.53	11.30 11.36 0.29 0.34 1.20	Boiler has separate hourly emission limits for times of natural gas and LPG (Propane) combustion. Annual emission limit represents worst-case from the combustion of both fuels. All PM emitted is assumed PM_{10}.

Appendix A: Emission Source (EP) Inventory

Quad/Graphics, Inc. – Permit Number R14-0012
Martinsburg Plant – Identification Number 00300042

Chrome Plating Operations

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)	lb/hour	Comments
S-6	Chromium Tank Scrubber	S-06	Chrome Plating Tank	CP-06	Chromium (VI), as Cr water soluble	0.00073	These limits are pursuant to 40 C.F.R. §63.342.c.1(i) and are in "milligrams of total chromium per day standard cubic meter of ventilation air."
S-7	Chromium Tank Scrubber	S-07	Chrome Plating Tank	CP-07	Chromium (VI), as Cr water soluble	0.00073	
S8	Chromium Tank Scrubber	S-08	Chrome Plating Tank	CP-08	Chromium (VI), as Cr water soluble	0.00073	

Ink Jet Printers

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)	Maximum Permitted Emission Lbs/Hour	Maximum Permitted Emission Tons/Year	Comments
S-12	Ink Jet Printing	S-12	Ink Jet Printing	-	VOCs	9.24	40.46	The emissions from the ink jet printers are fugitive and not vented through a common stack.
					HAPs	0.01	0.02	
					Methanol	0.01	0.02	

Appendix A: Emission Source (EP) Inventory

Quad/Graphics, Inc. – Permit Number R14-0012
Martinsburg Plant – Identification Number 00300042

Solvent Recovery System

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)	Maximum Permitted Emissions Lbs/Hour	Maximum Permitted Emissions Tons/Year	Comments
S-25 S-26 S-27	Carbon Adsorber Stacks	CA-1 to CA-21	108" Rotogravure Press	G13-G24, G29	VOCs HAPs *Toluene* *Xylene* *Ethylbenzene*	19.70 19.70 19.70 0.07 0.02	57.50 57.50 57.50 0.25 0.07	The limits are per each specified press and as controlled by the carbon adsorbers. Facility permitted for 12 108" presses. Hourly emission compliance is on a monthly average basis and annual emission compliance is on a twelve month rolling total basis. Aggregate HAP limit is in effect even if sum of speciated HAP limits are in excess of aggregate HAP limit.
S-25 S-26 S-27	Carbon Adsorber Stacks	CA-1 to CA-21	108" Rotogravure Press	G28	VOCs HAPs *Toluene* *Xylene* *Ethylbenzene*	19.70 19.70 19.70 0.07 0.02	51.50 51.50 51.50 0.25 0.07	Hourly emission compliance is on a monthly average basis and annual emission compliance is on a twelve month rolling total basis. Aggregate HAP limit is in effect even if sum of speciated HAP limits are in excess of aggregate HAP limit
S-25 S-26 S-27	Carbon Adsorber Stacks	CA-1 to CA-21	133" Rotogravure Press	G29-G35	VOCs HAPs *Toluene* *Xylene* *Ethylbenzene*	24.26 24.26 24.26 0.09 0.03	70.81 70.81 70.81 0.30 0.09	The limits are per each specified press and as controlled by the carbon adsorbers. Facility permitted for six (6) 133" presses. Hourly emission compliance is on a monthly average basis and annual emission compliance is on a twelve month rolling total basis. Aggregate HAP limit is in effect even if sum of speciated HAP limits are in excess of aggregate HAP limit.
S-25 S-26 S-27	Carbon Adsorber Stacks	CA-1 to CA-21	Rotogravure, Ink Blending and Manufacturing Tanks	Tanks Listed in Tables 4.1.7 and 6.1.1	VOCs HAPs *Toluene* *Xylene* *Ethylbenzene*	1.23 1.20 1.19 7.27 E-03 1.08E-03	0.53 0.52 0.52 2.69 E-03 4.10 E-04	The limits are aggregate limits for all specified sources and as controlled by the carbon adsorbers. Aggregate HAP limit is in effect even if sum of speciated HAP limits are in excess of aggregate HAP limit.
S-25 S-26 S-27	Carbon Adsorber Stacks	CA-1 to CA-21	Various – See Above	See Above	VOCs HAPs *Toluene* *Xylene* *Ethylbenzene*	383.19 383.16 383.15 1.45 0.44	1, 09.39 1,09.38 1109.38 4.77 1.44	These limits are the summation of the above limits and represent maximum allowable emissions from the combination of the three carbon adsorber bank emission points (S-26, S-27, S-28). Aggregate HAP limit is in effect even if sum of speciated HAP limits are in excess of aggregate HAP limit.

APPENDIX A: Emission Source (EP) Inventory

Quad/Graphics, Inc. – Permit Number R14-**00**12
Martinsburg Plant – Identification Number 00300042

Offset Presses

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)/Emission Limits	Comments
S-28	Thermal Oxidizer	F-01	Heatset Offset Web Press	OP-01	See Appendix B	
S-29	Thermal Oxidizer	F-02	Heatset Offset Web Press	OP-02	See Appendix B	
S-30	Catalytic Oxidizer	F-03	Heatset Offset Web Press	OP-03	See Appendix B	
S-31	Thermal Oxidizer	F-04	Heatset Offset Web Press	OP-04	See Appendix B	
S-32	Thermal Oxidizer	F-05	Heatset Offset Web Press	OP-05	See Appendix B	See Appendix B for Heatset Lithographic emissions limits. Aggregate HAP limits are in effect even if sum of speciated HAP limits are in excess of aggregate HAP limit.
S-33	Thermal Oxidizer	F-06	Heatset Offset Web Press	OP-06	See Appendix B	
S-34	Thermal Oxidizer	F-07	Heatset Offset Web Press	OP-07	See Appendix B	
S-35	Thermal Oxidizer	F-08	Heatset Offset Web Press	OP-08	See Appendix B	
S-36	Thermal Oxidizer	F-09	Heatset Offset Web Press	OP-09	See Appendix B	
S-37	Thermal Oxidizer	F-10	Heatset Offset Web Press	OP-10	See Appendix B	
S-38	Thermal Oxidizer	F-11	Heatset Offset Web Press	OP-11	See Appendix B	
S-39	Thermal Oxidizer	F-12	Heatset Offset Web Press	OP-12	See Appendix B	

Rennzman Cylinder Washer

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)	Maximum Permitted Emissions Lbs/Hour	Maximum Permitted Emissions Tons/Year	Comments
S-82	Cylinder Wash	RZ-1	Cylinder Washer	RZ-1	VOCs	4.00	11.17	

Recovered Solvent Loadout Operations

EP ID Number	EP Unit Description	EP Unit ID Numbers	Emission Generating Units (EGU)	EGU ID Nos.	Pollutant(s)	Maximum Permitted Emissions Lbs/Hour	Maximum Permitted Emissions Tons/Year	Comments
Fugitive	Fugitive	n/a	Recovered Solvent Truck/Rail Loadout Operations	n/a	VOCs	8.66	5.78	Emissions are fugitive in nature.
					Toluene	8.66	5.78	
Fugitive	Fugitive	n/a	Manufactured Ink Truck/Rail Loadout	n/a	VOCs	3.98	2.93	Emissions are fugitive in nature.
					Toluene	3.98	2.93	

Appendix B: Heatset Lithographic Printing Press Emission Limits

Quad/Graphics, Inc. – Permit Number R14-0012

Martinsburg Plant – Identification Number 00300042

EP ID Number	Source	Air Pollution Control Device	CO		NO_x		PM_{10}		SO_2		VOCs		Hazardous Air Pollutants (HAPs) Xylene		Ethylbenzene		Naphthalene	
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
	M1000 Press w/CO																	
	Printing																	
S-30	Ink/Solution/Wash Application	Catalytic Oxidizer	0	0	0	0	0	0	0	0	2.54	8.34	0	0	0	0	0	0
S-30	Combustion Emissions (N/G)		0.86	-	1.02	-	0.08	-	0.01	-	0.06	-	0	-	0	-	0	-
	Combustion Emissions (LPG)		0.37	-	2.19	-	0.07	-	0.16	-	0.03	-	0	-	0	-	0	-
	Combustion Emissions (Annual)		-	2.11	-	2.80	-	0.20	-	0.04	-	0.14	-	0	-	0	-	0
S-30	**Total S-30**		**0.86**	**2.11**	**2.19**	**2.80**	**0.08**	**0.20**	**0.16**	**0.04**	**2.59**	**8.47**	**0**	**0**	**0**	**0**	**0**	**0**
Fugitive	Uncaptured		0	0	0	0	0	0	0	0	1.69	5.55	0.01	0.04	0	0	0	0
	Cleaning																	
Fugitive	Uncaptured		0	0	0	0	0	0	0	0	N/A	0.48	0.01	0.02	0.00	0.01	0	0
	M1000 Press w/TO		CO		NO_x		PM_{10}		SO_2		VOCs		Xylene		Ethylbenzene		Naphthalene	
	Printing		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
S-(31-35)	Ink/Solution/Wash Application	Thermal Oxidizer	0	0	0	0	0	0	0	0	2.54	8.34	0	0	0	0	0	0
S-(31-35)	Combustion Emissions (N/G)		1.15	-	1.37	-	0.10	-	0.01	-	0.08	-	0	-	0	-	0	-
	Combustion Emissions (LPG)		0.50	-	2.94	-	0.09	-	0.22	-	0.05	-	0	-	0	-	0	-
	Combustion Emissions (Annual)		-	3.05	-	4.02	-	0.28	-	0.06	-	0.20	-	0	-	0	-	0
S-(31-35)	**Total S-(31-35)**		**1.15**	**3.05**	**2.94**	**4.02**	**0.10**	**0.28**	**0.22**	**0.06**	**2.61**	**8.54**	**0**	**0**	**0**	**0**	**0**	**0**
Fugitive	Uncaptured		0	0	0	0	0	0	0	0	1.69	5.55	0.01	0.04	0	0	0	0
	Cleaning																	
Fugitive	Uncaptured		0	0	0	0	0	0	0	0	N/A	0.48	0.01	0.02	0.00	0.01	0	0
	M3000 Press w/TO		CO		NO_x		PM_{10}		SO_2		VOCs		Xylene		Ethylbenzene		Naphthalene	
	Printing		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
S-(28-29,36-39)	Ink/Solution/Wash Application	Thermal Oxidizer	0	0	0	0	0	0	0	0	2.55	8.37	0	0	0	0	0	0
S-(28-29,36-39)	Combustion Emissions (N/G)		1.32	-	1.57	-	0.12	-	0.01	-	0.09	-	0	-	0	-	0	-
	Combustion Emissions (LPG)		0.57	-	3.36	-	0.11	-	0.25	-	0.05	-	0	-	0	-	0	-
	Combustion Emissions (Annual)		-	3.57	-	4.70	-	0.33	-	0.07	-	0.24	-	0	-	0	-	0
S-(28-29,36-39)	**Total S-(28-29,36-39)**		**1.32**	**3.57**	**3.36**	**4.70**	**0.12**	**0.33**	**0.25**	**0.07**	**2.63**	**8.60**	**0**	**0**	**0**	**0**	**0**	**0**
Fugitive	Uncaptured		0	0	0	0	0	0	0	0	2.05	6.75	0.01	0.04	0	0	0.01	0.02
	Cleaning																	
Fugitive	Uncaptured		0	0	0	0	0	0	0	0	N/A	0.61	0.01	0.03	0.00	0.01	0	0

Notes

(1) The limits above are per individual press. Emission Points are listed for all similar emission points (i.e., S-(31-35) means the emission points identified as S31, S32, S33, S34, S35).

(2) Operations that utilize rags shall dispose of rags in sealed containers and dispose of properly.

(3) All particulate emissions from combustion is assumed to be PM_{10}.

(4) Offset combustion hourly limits are different for LPG and Natural Gas (N/G). Annual combustion limits represent the sum of the annual emissions while combusting both fuels.

Appendix C
Quad/Graphics, Inc.: Martinsburg Plant
R14-12B: Identification Number 00300042

Summary of Quad/Graphics, Inc. Lomira Gravure Press Mass Balance Solvent Recovery Report

NON-CONFIDENTIAL

Chemical Research \ Technology | 952 Badger Road | Lomira, Wisconsin 53048 | Telephone 920-921-5271

INTRODUCTION:

The solvent recovery report for the Quad/Graphics Lomira Gravure press operation is compiled by CR\T (Chemcial Research\Technology), the ink division of Quad/Graphics. CR\T personnel maintain inventory, perform quality control, and provide in-house technical support (and facilitate supplier involved support) for gravure ink material and solvent used in the process.

The report uses a mass balance to figure the efficiency of the solvent recovery system.

CONTENTS:

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DEFINITIONS:

ink is defined as any ink, toner, extender, or additive, or any other solids/solvent mixture used in the gravure printing process (ie, raw ink and related coatings.)

solvent is any solids-free solvent; all solvent used is considered VOC solvent.

initial refers to the value at the start time of the period (the day when month-end inventory, either the last day or first day of a month.)

final refers to the value at the end time of the period (the day when month-end inventory, either the last day or first day of a month.)

received refers to an amount received between the initial time and final time.

running weighted average of a property applies to tank inks; it gives the value of the property at any given time by tracking the change in the property with each shipment received into a tank. Calculation of the running weighted average (RWA) of a property is made for each receipt of ink to a tank as follows:

$$property_{new\ RWA} = \frac{[property_{old\ RWA} * (old\ \ volume\ ink\ in\ tank) + property_{received} * (volume\ ink\ received\ into\ tank)]}{[(old\ volume\ ink\ in\ tank) + (volume\ ink\ received\ into\ tank)]}$$

where,

old refers to the value before pumping ink into a tank

new refers to the value after pumping ink into a tank

$property_{received}$ is the measured value resulting from testing a tanker sample

wpg is the density of a material in units of lb per gallon

Efficiency of solvent recovery, e, for a period is defined as:

$$e = \frac{lb\ solvent\ recovered}{lb\ solvent\ consumed} * 100$$

where, (98.7 %) / 100

solvent recovered refers to the total (from all presses) solvent recovered during the period.

solvent consumed refers to the total (from all presses) solvent consumed via inks and solvents during the period.

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CALCULATIONS:

The general equation for solvent recovery efficiency:

The efficiency of solvent recovery, e, for a period is defined as:

$$e = \frac{\text{lb solvent recovered}}{\text{lb solvent consumed}} * 100$$

Lb solvent recovered:

lb solvent recovered = final meter - initial meter

Lb solvent consumed:

lb solvent consumed

$$= \left(\sum_{\text{all tank, drum inks}} \text{lb solvent consumed via an ink}\right) + \left(\sum_{\text{tank toluene, drum solvents}} \text{lb solvent consumed via solvents}\right)$$

$$= \left(\sum_{\text{all tank inks}} \text{lb solvent consumed via an ink}\right) \quad \text{(see page 4)}$$

$$+ \left(\sum_{\text{all drum inks}} \text{lb solvent consumed via an ink}\right) \quad \text{(see page 5)}$$

$$+ \left(\sum_{\text{toluene tanks}} \text{lb solvent consumed via tank toluene}\right) \quad \text{(see page 6)}$$

$$+ \left(\sum_{\text{drum solvents}} \text{lb solvent consumed via solvents}\right) \quad \text{(see page 7)}$$

The **first** and **second terms** in this expression account for tank and drum inks, respectively.

The **third** and **fourth terms** in this expression account for tank toluene and drum solvents, respectively.

Details on each of these four terms follow.

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CALCULATIONS (continued):

First term in expression: Solvent consumed via tank inks, general:

$\sum_{\text{all tank inks}}$ lb solvent consumed via an ink

The first term, which is due to tank inks, uses the general mass balance expression,

lb solvent consumed via an ink = (lb solvent in an $ink_{initial}$) - (lb solvent in an ink_{final}) + (lb solvent in an $ink_{received}$)

DETAILS: Solvent consumed via tank inks:

For solvent contained in initial and final inventories of an ink,

lb solvent in an $ink_{initial, final}$ = (gallons of $ink_{initial, final}$) * (wpg of $ink_{initial, final}$) * (mass fraction of solvent in $ink_{initial, final}$)

gallons of $ink_{initial, final}$ = volume of ink in storage tank at the $time_{initial, final}$

volume of ink in storage tank = (Cone volume for tank) + (Gallons/inch constant for tank)*(Tank height of ink in tank)

Tank height of ink in tank = reading from tank height level indicator

Cone volume for tank------>
yellow, coated extender tanks, uncoated extender tanks = 1300 gallons
red, blue, black tanks = 840 gallons

Gallons/inch constant for tank------>
yellow, coated extender tanks, uncoated extender tanks = 59.2 gallons/inch
red, blue, black tanks = 44.2 gallons/inch

wpg of $ink_{initial, final}$ = running weighted average wpg at the $time_{initial, final}$

mass fraction of solvent in $ink_{initial, final}$ = running weighted average mass fraction of solvent in ink at the $time_{initial, final}$

(Note: See definition for running weighted average.)

For solvent contained in received quantities of an ink,

lb of solvent in an $ink_{received}$ = $\sum_{\text{all shipments}}$ lb solvent in ink shipment

= $\sum_{\text{all shipments}}$ (gallons of $ink_{received}$) * (wpg of $ink_{received}$) * (mass fraction of solvent in $ink_{received}$)

gallons of $ink_{received}$ = (unloading stop meter reading)$_{ink\ receipt}$ - (unloading start meter reading)$_{ink\ receipt}$

wpg of $ink_{received}$ = measured wpg from tanker sample

mass fraction of solvent in $ink_{received}$ = measured mass fraction of solvent in ink from tanker sample

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CALCULATIONS (continued):

Second term in expression: Solvent consumed via drum inks, general:

$\sum_{\text{all drum inks}}$ lb solvent consumed via an ink

The second term, which is due to drum inks, uses the general mass balance expression,

lb solvent consumed via an ink = (lb solvent in $\text{ink}_{\text{initial}}$) - (lb solvent in $\text{ink}_{\text{final}}$) + (lb solvent in $\text{ink}_{\text{received}}$) - (lb solvent in $\text{ink}_{\text{shipped out}}$)

DETAILS: Solvent consumed via drum inks:

For solvent contained in initial and final inventories of an ink,

lb solvent in $\text{ink}_{\text{initial, final}}$

= (drums of ink on hand at the $\text{time}_{\text{initial, final}}$) * (55 gallons per drum) * (wpg of ink) * (mass fraction of solvent in ink)

drums of ink on hand at the $\text{time}_{\text{initial, final}}$ = inventoried amount

wpg of ink = wpg (estimated value based on similar, known inks)

mass fraction of solvent in ink = mass fraction of solvent (estimated value based on similar, known inks)

For solvent contained in received quantities of an ink,

lb of solvent in $\text{ink}_{\text{received}}$ = $\sum_{\text{all shipments}}$ lb solvent in ink receipt

= $\sum_{\text{all shipments}}$ (pounds of $\text{ink}_{\text{received}}$) * (mass fraction of solvent in ink)

pounds of $\text{ink}_{\text{received}}$ = packing-slip (invoiced) actual amount received

mass fraction of solvent in ink = mass fraction of solvent (estimated value based on similar, known inks)

For solvent contained in shipped quantities of an ink,

lb solvent in drum $\text{ink}_{\text{shipped out}}$ = $\sum_{\text{all shipments}}$ lb solvent in drum ink shipment

= $\sum_{\text{all shipments}}$(gallons of drum $\text{ink}_{\text{shipped out}}$) * (wpg of $\text{ink}_{\text{shipped out}}$) * (mass fraction of solvent in $\text{ink}_{\text{shipped out}}$)

gallons of drum $\text{ink}_{\text{shipped out}}$ = waste manifest gallons shipped

wpg of $\text{ink}_{\text{shipped out}}$ = weight per gallon (estimated value based on similar, known inks)

mass fraction of solvent in $\text{ink}_{\text{shipped out}}$ = mass fraction of solvent in ink shipped out (estimated value based on similar, known inks)

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CALCULATIONS (continued):

Third term in expression: Solvent consumed via tank toluene, general:

$\sum_{\text{toluene tanks}}$ lb solvent consumed via tank toluene

The third term, which is due to tank toluene, uses the general mass balance expression,

lb solvent consumed = (lb solvent on hand$_{initial}$) - (lb solvent on hand$_{final}$) - (lb solvent$_{shipped\ out}$)

DETAILS: Solvent consumed via tank toluene:

For solvent contained in initial and final inventories of tank toluene,

(lb solvent on hand)$_{initial,\ final}$ = (volume of toluene in tanks)$_{initial,\ final}$ * wpg$_{toluene}$

(volume of toluene in tanks)$_{initial,\ final}$ = (level indicator volume reading$_{T18}$ + level indicator volume reading$_{T17}$)$_{initial,\ final}$

wpg$_{toluene}$ = original measured value = 7.15 lb/gallon

For solvent contained in shipped quantities of tank toluene,

(lb solvent$_{shipped\ out}$) = $\left(\sum_{\text{all shipments}}\right.$ volume of toluene shipment$\left.\right)$ * wpg$_{toluene}$

volume of toluene shipment = (loading stop meter reading)$_{toluene\ shipment}$ - (loading start meter reading)$_{toluene\ shipment}$

wpg$_{toluene}$ = original measured value = 7.15 lb/gallon

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CALCULATIONS (continued):

Fourth term in expression: Solvent consumed via drum solvents, general:

$\sum_{\text{drum solvents}}$ lb solvent consumed via solvents

The fourth term, which is due to drum solvents uses the general mass balance expression,

lb drum solvent consumed = (lb drum solvent on hand$_{\text{initial}}$) - (lb drum solvent on hand$_{\text{final}}$) + (lb drum solvent$_{\text{received}}$)

DETAILS: Solvent consumed via drum solvents:

For solvent contained in initial and final inventories of miscellaneous drum solvents,

lb drum solvent on hand$_{\text{initial, final}}$ = (drums of solvent on hand at the time$_{\text{initial, final}}$) * (55 gallons per drum) * (wpg of solvent)

wpg of solvent = original measured value for the solvent or manufacurer's value

drums of solvent on hand at the time$_{\text{initial, final}}$ = inventoried amount

For solvent contained in received quantities of a solvent,

lb drum solvent$_{\text{received}}$ = $\sum_{\text{all shipments}}$ lb drum solvent shipment

lb drum solvent shipment = packing-slip (invoiced) lb of solvent received

or

lb drum solvent shipment = [packing-slip (invoiced) gallons of solvent received] * (wpg of solvent)

wpg of solvent = original measured value for the solvent or manufacurer's value

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APPENDIX D – MONTHLY/QUARTERLY OPACITY REPORT

Date of Observation:
Date Entered by:
Reviewed by:
Date Reviewed:
General Weather Conditions:

Emission Point ID	Description of Emission Point	Time of Observation	Visible Emissions (Yes/No)	Consecutive Months of Visible Emissions	Comments

APPENDIX E

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached_____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1]: _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name and Title: _____ _____
(please print or type) Name Title

Telephone No.: _____ Fax No.: _____

[1]This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

   (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

   (ii) the delegation of authority to such representative is approved in advance by the Chief;

b. For a partnership or sole propriertorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.